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Your ref: 30CD/151/82088/01

27 April 2018

Dear Ms Baker

STRATHY SOUTH WIND POWERED ELECTRICITY GENERATING STATION SOUTH OF STRATHY, SUTHERLAND

Application

1. I refer to the application made by SSE Generation Limited, a company incorporated under the Companies Acts with company number 02310571 and having its registered office at No.1 Forbury Place, Reading RG1 3JH (“the Company”), dated 28 June 2007, for consent under section 36 of the Electricity Act 1989 (“the Electricity Act”) for construction and operation of Strathy South wind farm electricity generating station, situated approximately 15 kilometres (km) south of Strathy village, and 35 km south-west of the settlement of Thurso in Sutherland in the Highland Council area.

2. The application (as amended) is for construction and operation of a wind powered generating station with 39 wind turbines, with a hub height of 83m, tip height of up to 135m high, maximum rotor diameter of 104m and indicative generating capacity of approximately 133 megawatts (MW). **This letter contains the Scottish Ministers’ decision to grant consent for the development as more particularly described at Annex 1.**

Planning permission

3. In terms of section 57(2) of the Town and Country Planning (Scotland) Act 1997 the Scottish Ministers may on granting consent under section 36 of the Electricity Act direct that planning permission is deemed to be granted in respect of that generating station and any ancillary developments. **This letter contains the Scottish Ministers’ direction that planning permission is deemed to be granted.**

Consultation

4. In accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (“the 2000 Regulations”) the Company submitted on 28 June 2007 an Environmental Statement (ES) describing the development and giving an analysis of its environmental effects. The application proposed 77 turbines with a tip height of 110 metres and a generating capacity of up to 177 MW. In accordance with regulatory requirements, advertisement of the application and Environmental Statement was made in the local and national press and they were placed in the public domain, and the opportunity given for those wishing to make representations to do so. The 2000 Regulations have subsequently (with effect from 16th May 2017) been replaced by the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (“the 2017 Regulations”). The 2017 Regulations now apply to this application subject to certain modifications. These modifications, among other things, provide that where the 2017 Regulations refer to an “EIA report” this includes an “environmental statement” prepared under the 2000 Regulations.
5. In July 2013 the Company varied the application by deleting 30 wind turbines from the original scheme; increasing the height of the turbines to 135 metres; reducing the number of laydown areas and borrow pits; and re-positioning the remaining turbines to optimise their yield and reduce environmental impact.
6. In November 2014, the Company further varied the application by deleting another 8 wind turbines; reducing the land-take, length of on-site tracks, number of stream crossings and number of anemometer masts.
7. On each of these two occasions where the Company varied the application, advertisement was made in the local and national press and the relevant documents were placed in the public domain, and the opportunity given for those wishing to make representations to do so.
8. The proposed development before the Scottish ministers for consideration and to which this decision letter relates, comprises 39 wind turbines, with a hub height of 83m, tip height of up to 135m, and maximum rotor diameter of 104m, as more particularly described at Annex 1.

Statutory Consultees

9. Under Schedule 8 of the Electricity Act, the relevant planning authority is required to be notified in respect of a section 36 consent application. Notifications were sent to the Highland Council as the planning authority, as well as to Scottish Natural Heritage (SNH) and the Scottish Environmental Protection Agency (SEPA).

The Highland Council

10. Highland Council responded to the consultation on the application in 2008 indicating the relevant development plan policies against which the application needed to be considered and that it anticipated further information would be submitted by the Company to address a number of areas. The council’s Archaeology Service raised concerns that the application would adversely affect a number of known archaeological features and the setting of a Scheduled Ancient Monument, but indicated that suitable mitigation was possible. The service requested that a detailed assessment of the cumulative impacts of the development on the cultural heritage, giving particular attention to Ben Griam Beg hill fort. Highland Council added that its response was not final and it would not progress the

application further until the Company had completed additional surveys to address the objections raised by SNH.

11. Highland Council responded to the subsequent consultation on the modified 2013 scheme on 10 June 2014 and objected “on the basis of concerns highlighted by Scottish Natural Heritage, thereby the proposal was contrary to the Council’s Highland-wide Local Development Plan, Policies 57 (Natural, Built and Cultural Heritage) and 67 (Renewable Energy).”

12. The Company confirmed to the Energy Consents Unit of the Scottish Government that it wished Scottish Ministers to move to determine the application which would necessitate a public inquiry.

13. On 9 January 2015, Highland Council informed Scottish Ministers that it maintained its objection to the revised 39 turbine application and had no further comment.

SNH

14. In response to the 2007 consultation, SNH objected to the application on the grounds that there was likely to be a probable adverse effect on the qualifying interests of the Caithness & Sutherland Peatlands Special Area of Conservation (SAC), and that insufficient information had been provided regarding the potential impacts of the development on the Caithness & Sutherland Peatlands Special Area of Protection (SPA). Additionally, they considered that there was insufficient information regarding potential impacts on qualifying habitats on the site. They further objected due to insufficient information on the potential impacts and likely significant effects on the qualifying interests of the Caithness and Sutherland Peatlands Ramsar site. It was also submitted by Scottish Natural Heritage that insufficient information was given on peat slide risk to determine the effects on Atlantic Salmon and freshwater pearl mussel.

15. Further information which was highlighted as being required by SNH included clarification of access tracks and turbine and track layout as these were not clear in the ES – an assessment of impacts of the ‘existing’ track was deemed to be required. Details of cabling methods and subsequent revised assessment of habitat loss, and further investigation of peat stability was considered to be required. SNH considered that there was insufficient information regarding deforestation and impact on habitats. SNH further required a desk study of existing records of qualifying species within the SPA and further detailed survey and assessment of supplied data relating to the qualifying bird species within the site.

16. It was further stated by Scottish Natural Heritage that mitigation conditions should be applied to protect wildcat, and that planning conditions were applied to protect access rights. Scottish Natural Heritage did not object on grounds of landscape and visual effects or on the grounds of cumulative effects of the development with other wind farms which were in existence, consented or at planning stage.

17. SNH responded to the 2013 consultation on the revised development on 20 November 2013. SNH stated that the proposal could raise natural heritage issues of national interest in relation to both the Caithness and Sutherland Peatlands SPA and SAC and maintained its objection to the proposal until further information obtained from the Company. It explained that its objection was based on potential impacts on red-throated diver and hen harrier, and lack of evidence to demonstrate that there would be no adverse effect on site integrity of the SPA for greenshank, black-throated diver, wood sandpiper and golden eagle. Another objection was raised on grounds that there was insufficient information to establish

that there would be no adverse impacts on the qualifying interests of the SAC, and that in this regard further information was necessary to (a) clarify siting of passing places on access tracks and (b) include an assessment of the SAC as an environmental receptor within the peat slide risk assessment. SNH also objected on grounds of potential impacts on habitats used by otter. Its response also carried a number of recommendations on working arrangements in relation to spoil heaps; cable laying; deer management; track widening and upgrades; protecting wildcat, pine marten and water vole. A further recommendation was made for removal of 4 turbines to mitigate landscape and visual impacts.

18. On 6 February 2014, SNH informed Ministers it withdrew its previous objections in respect of hen harrier, black-throated diver and wood sandpiper but was maintaining all other previous objections to the development, and still considered that there were insufficient vantage point surveys in respect of red-throated diver; that impacts to greenshank were not adequately quantified; and that impacts to golden eagle were not addressed by information submitted.

19. On 11 February 2014, SNH indicated it had established that the SAC was not at significant risk from the impacts of a peat slide resulting from the construction and operation of the proposed wind farm. SNH also indicated that it expected to consider further information from the Company regarding its objections in respect of red-throated diver, greenshank, and golden eagle.

20. On 21 March 2014, SNH informed Ministers that it had removed its objection in respect of otter but maintained its objections in relation to red-throated diver, greenshank and golden eagle as it considered there was still insufficient information to enable it to withdraw those objections.

21. On 30 April 2014, SNH informed Ministers that it remained of the view that the analysis of ornithological data supplied did not demonstrate beyond reasonable doubt that there would be no adverse effect on site integrity in relation to greenshank or red-throated diver, however it withdrew its objection in respect of golden eagle.

22. On 8 January 2015, SNH informed Ministers that the revised 39 turbine proposal was no longer considered likely to have a significant effect on the internationally important natural heritage interests of the SAC and that it withdrew its objection on that ground. SNH retained its objection in respect of the SPA on the basis that it considered adverse impacts on site integrity could occur through displacement of red-throated diver and that collision mortality for red-throated diver and greenshank could not be estimated reliably. SNH also informed Ministers of the withdrawal of its objection in respect of hen-harrier, black-throated diver, wood sandpiper, and golden eagle.

23. On 28 May 2015, SNH informed Ministers that in light of further information presented to the Reporter by the Company to the public local inquiry which revised the terms of the proposed Habitat Management Plan, that it objected to the proposal in respect of hen-harrier unless a condition was included to require “targeted sward management to reduce attractiveness of the area of the development site where turbines will be constructed for breeding hen harriers is included as an explicit aim of the Habitat Management Plan. This is to reduce collision risk to breeding hen harriers associated with the Caithness and Sutherland Peatlands SPA”.

24. In summary, SNH maintained its objection in relation to insufficient information regarding effect on the Caithness and Sutherland Peatlands SPA and Ramsar site due to impacts on red-throated diver and greenshank.

25. SNH's position is considered more fully in the Public Local Inquiry Report ("the Report") appended to this decision letter.

26. Ministers have also had regard to the publication by SNH in October 2016 of Commissioned Report No. 893 entitled "Greenshank Collision Mortality Estimated Based on Ecological and Behavioural Studies" by consultants MacArthur Green, an update to a previous version which was considered by the Inquiry Reporter ("the Reporter") during the Public Local Inquiry ("PLI"). Ministers note that SNH has advised that the published version has been edited to improve readability but contains no new scientific evidence, and that the conclusions considered by the Reporter remain unchanged.

27. Scottish Ministers have had regard to the advice from SNH and have imposed the following conditions attached to the deemed planning permission to address points raised by SNH and incorporate its advice prior to discharge of the conditions: (3) Decommissioning and Restoration Plan to ensure the decommissioning and removal of the Development in an appropriate and environmentally acceptable manner and the restoration and aftercare of the site, in the interests of safety, amenity and environmental protection; (8) Buildings and Other Facilities to ensure that all ancillary elements of the Development are acceptable in terms of visual, landscape and environmental impact considerations; (16) Main Access Route to ensure the required road related mitigation does not have a significantly adverse impact on the Caithness and Sutherland Peatlands SAC; (17) Micro-Siting to enable appropriate micro-siting within the site to enable the Developer to respond to site-specific ground conditions, while enabling the planning authority to retain effective control over any changes to layout that may have ramifications for the environment and/or landscape and visual impact; (18) Construction and Environment Management Document to ensure that all construction operations are carried out in a manner that minimises their impact on road safety, amenity and the environment, and that the mitigation measures contained in the Environmental Statement accompanying the application, or as otherwise agreed, are fully implemented; (19) Ecological Clerk of Works to protect the environment from the construction and operation of the Development and secure final detailed information on the delivery of all on-site mitigation projects; (20) Pre-Construction Species Survey and Protection Plan and Protected Bird Species, Vegetation and Tree Felling Monitoring, Surveys and Reporting to ensure that impacts on protected species, vegetation and of tree felling are identified, reported on and in the case of protected species mitigated appropriately; (22) Peat Stability Plan to minimise the risk of peat failure arising from the Development; (23) Habitat Management Plan in the interests of good land management, the protection of habitats and to minimise collision risk to bird species which are qualifying interests of the Caithness and Sutherland Peatlands Special Protection Area; (24) Deer Management Plan in the interests of good land management, and the management of deer and to avoid any increase in deer impacts on SAC habitats that might arise from displacement of deer from the wind farm site; and (25) Borrow Pit Working to ensure that a scheme is in place to control the use of borrow pits to minimise the level of visual intrusion and any adverse impacts as a result of the construction phase of the Development.

SEPA

28. In response to the 2007 consultation, SEPA objected to the application as the layout as proposed was close to a number of watercourses and areas of deep peat. It was stated that there were inconsistencies within the Environmental Statement regarding layout and access tracks. Clarification was required on the location of the access track to the site and access routes between a number of turbines, as well as an 'existing' ATV track which was referred to in the Environmental Statement but which was not shown on any existing

Ordnance Survey maps. SEPA had concerns regarding a proposed new bypass road through a previously undeveloped area of peat and stated that further information was required regarding this bypass to demonstrate that the impact of this would not be significant.

29. SEPA further objected on the siting of certain turbines within areas of deep peat. Further assessment of peat slide risk was deemed to be required prior to determination in order to identify lower risk areas. An objection was raised in regard to the concrete batching plant as the developer had not specified the precise location of this in the Environmental Statement; likewise further information was required regarding the location and quantity of proposed water abstraction on the site.

30. SEPA advised that further information was required in regard to watercourse crossings and proximity to private water supplies. A further objection was raised due to a lack of information on waste minimisation and management.

31. On 19 September 2013, SEPA responded to the 2013 consultation on the revised application. SEPA indicated it would no longer object to the development subject to the imposition of conditions on any consent to ensure water crossing designs addressed flood risk; a Construction and Environmental Management Plan to control pollution of air, land and water; a scheme of buffer distances around the water environment; a micrositing allowance; and a restoration and aftercare plan to be submitted prior to the site being decommissioned. In its response, SEPA added that in terms of CAR authorisation, it would expect the proposal to fall into Category 1 - 'capable' of being authorised, although it added that it had not received any CAR applications from the Company.

32. On 11 February 2014, SEPA informed Ministers it had sufficient confidence in the carbon payback figure for it to be used by Ministers as a material consideration in decision making and that the proposal adhered to good practice.

33. On 13 February 2014, SEPA informed Ministers it was content with the draft Water Quality Monitoring Plan and requested that it be included as a requirement of the construction and environmental management plan (CEMP).

34. On 10 December 2014, SEPA informed Ministers that the 39 turbine revised proposal would have a reduced environmental impact and that its advice remained the same as previously set out in its response of 19 September 2013.

35. In summary, SEPA does not object subject to the imposition of the conditions it has outlined which would address the concerns it maintains in relation to flood risk, watercourse crossings, pollution prevention, protection of the water environment, avoidance of deep peat, site restoration and aftercare, peat management, waste management, and monitoring.

36. Scottish Ministers have had regard to the advice from SEPA and have imposed the following conditions attached to the deemed planning permission to address points raised by SEPA and incorporate its advice prior to discharge of the conditions: (3) Decommissioning and Restoration Plan to ensure the decommissioning and removal of the Development in an appropriate and environmentally acceptable manner and the restoration and aftercare of the site, in the interests of safety, amenity and environmental protection; (8) Buildings and Other Facilities to ensure that all ancillary elements of the Development are acceptable in terms of visual, landscape and environmental impact considerations; (17) Micro-Siting to enable appropriate micro-siting within the site to enable the Developer to respond to site-specific ground conditions, while enabling the planning authority to retain effective control over any

changes to layout that may have ramifications for the environment and/or landscape and visual impact; (18) Construction and Environment Management Document to ensure that all construction operations are carried out in a manner that minimises their impact on road safety, amenity and the environment, and that the mitigation measures contained in the Environmental Statement accompanying the application, or as otherwise agreed, are fully implemented; (19) Ecological Clerk of Works to protect the environment from the construction and operation of the Development and secure final detailed information on the delivery of all on-site mitigation projects; (22) Peat Stability Plan to minimise the risk of peat failure arising from the Development; (23) Habitat Management Plan in the interests of good land management, the protection of habitats and to minimise collision risk to bird species which are qualifying interests of the Caithness and Sutherland Peatlands Special Protection Area; (25) Borrow Pit Working to ensure that a scheme is in place to control the use of borrow pits to minimise the level of visual intrusion and any adverse impacts as a result of the construction phase of the Development.

Non-Statutory Consultees

37. A number of other bodies were consulted on the application.

38. The Association of Salmon Fishery Boards (now Fisheries Management Scotland) did not object to the application but recorded concerns regarding obstruction to upstream and downstream migration during and after construction, disturbance of spawning bed during construction, increases in silt and sediment loads resulting from works, point source pollution incidents during construction, and drainage issues, and wished to be further consulted on these issues.

39. Scottish Ministers have had regard to the potential impacts on fisheries and have imposed conditions attached to the deemed planning permission including (17) Micro-Siting to enable appropriate micro-siting within the site enabling the Developer to respond to site-specific ground conditions, while enabling the planning authority to retain effective control over any changes to layout or construction activities in the vicinity of watercourses and groundwater dependent terrestrial ecosystems that may have ramifications for the environment; (18) Construction and Environmental Management Document to ensure that all construction operations are carried out in a manner that minimises their impact on amenity and the environment, and that the mitigation measures contained in the Environmental Statement accompanying the application, or as otherwise agreed, are fully implemented; and (19) Ecological Clerk of Works to protect the environment from the construction and operation of the Development and secure final detailed information on the delivery of all on-site mitigation projects.

40. Bettyhill, Strathnaver and Altnaharra Community Council informed Scottish Ministers on 2 June 2014 that it did not object to the revised application and withdrew the previous objection it had made to the proposal via Highland Council.

41. BT did not object to the application but wished to be further consulted on details of proposed tracks, extent of any 'Hot Zone' boundaries or overhead/underground HV routes which may affect their apparatus.

42. BT responded to the consultation on the revised application on 16 August 2013 to indicate it had no comment.

43. Caithness District Salmon Fisheries Board indicated that it had no comment on the application.

44. The Civil Aviation Authority (CAA) indicated that it did not wish to make any site specific observations on the application, but indicated that NATS and Ministry of Defence should be consulted. It observed that there may be a need to install aviation obstruction lighting, and that if any structures should exceed 300 feet in height these should be charted on aviation maps.
45. CAA responded on 11 September 2013 and did not object to the revised application. It recommended that if the revised application was consented, that details of locations, heights and lighting status of turbines and meteorological masts be submitted to the Defence Geographic Centre for inclusion on aviation charts.
46. Scottish Ministers have had regard to potential aviation impacts and imposed deemed planning condition (10) Aviation Lighting and Information to ensure that the erected turbines present no air safety risk and in a manner that is acceptable to local visual impact considerations.
47. The Crown Estate responded on 29 August 2013 to confirm that its interests were not affected by the revised application and it had no comment to make.
48. CSS Spectrum Management responded to the consultation on the application stating that it did not object.
49. The Defence Estates (Ministry of Defence) objected to the application, stating that the proposed turbines would be located within a low flying area and would unacceptably affect military activities; it then invited the developer to propose mitigation suggestions, and following discussions, withdrew its objection stating that it had no further concerns.
50. Defence Estates then responded to the consultation on the revised application on 2 September 2013 and objected on the grounds that four of the turbines would obstruct low flying operations in a training area. It also made a recommendation on the aviation safety lighting that would be required.
51. Scottish Ministers have had regard to potential aviation impacts and imposed deemed planning condition (10) Aviation Lighting and Information to ensure that the erected turbines present no air safety risk and in a manner that is acceptable to local visual impact considerations.
52. The Fisheries Research Services (FRS) (within what is now Marine Scotland Science) responded to the 2007 consultation on the application and indicated that an assessment should be done of the combined effects of the Strathy North wind farm with the proposed development in relation to fisheries interests. FRS stated that insufficient data had been collected in regard to fishery interests. FRS stated that one year's hydrochemical and electrofishing data should be established, that suitable control sites away from potential impacted areas should be identified, and that an action plan should be completed outlining what would be done in the event of a problem. FRS recommended that a monitoring programme should be implemented during the construction, operation and decommissioning phases of the development.
53. Marine Scotland Science (the Scottish Government's in-house advisers) considered the application revised in 2013 for 47 turbines and made recommendations in relation to electrofishing surveys; guidelines for removal of felled material from and adjacent to watercourses; guidelines for river crossings and migratory fish; selection of sites for the

hydrochemical baseline survey; and water quality monitoring plans. Marine Scotland Science advised that the Water Quality Monitoring Plan from the Company broadly addressed its concerns.

54. On 10 December 2014, commenting on the application for 39 turbines as revised by the Company in November 2014, Marine Scotland Science advised that it was content that impacts on fish populations had not altered as a result of the revision to the proposal and that its previous advice remained.

55. In summary, Marine Scotland Science maintained concern in relation to the need for monitoring, surveys and the need for an action plan outlining what would be done in the event of an incident impacting on fish.

56. Scottish Ministers have had regard to the potential impacts on fisheries and have imposed conditions attached to the deemed planning permission including (17) Micro-Siting to enable appropriate micro-siting within the site enabling the Developer to respond to site-specific ground conditions, while enabling the planning authority to retain effective control over any changes to layout or construction activities in the vicinity of watercourses and groundwater dependent terrestrial ecosystems that may have ramifications for the environment; (18) Construction and Environmental Management Document to ensure that all construction operations are carried out in a manner that minimises their impact on amenity and the environment, and that the mitigation measures contained in the Environmental Statement accompanying the application, or as otherwise agreed, are fully implemented; and (19) Ecological Clerk of Works to protect the environment from the construction and operation of the Development and secure final detailed information on the delivery of all on-site mitigation projects.

57. Forestry Commission Scotland (FCS) did not object to the proposal but stated that it remained concerned about deforestation on the scale proposed unless the public benefits and long term feasibility of bog restoration in conjunction with the wind farm had been endorsed by SNH. FCS highlighted the importance of considering the combined effect of deforestation and bog restoration on the carbon saving potential of the proposal. It also raised concern about the potential impact of the proposed felling on Water Framework Directive objectives.

58. In the view of FCS, more information was required regarding the scale or rate of woodland removal, replanting and the effects of forest removal on the water table. FCS recommended that an assessment was required of the impact of felling on the current landscape and on the woodland to remain and to be added. FCS recommended a Habitat and Woodland Management Plan.

59. FCS responded to the consultation on the revised application on 14 October 2013, indicating that it did not object. It indicated that its view in relation to deforestation and public benefits of bog restoration was now that the removal of woodland and the restoration of the site proposed by the revised application was seen as having wider environmental benefit, and that in its view compensatory planting was not required in light of this. FCS recommended a forest plan be prepared, to include harvesting plans and timber utilisation proposals and showing retained woodland and restocking options.

60. Ministers accept SEPA's advice summarised at paragraph 31 that under the Water Environment (Controlled Activities) (Scotland) Regulations 2005, a CAR license is capable of being authorised and Ministers consider these regulations would provide sufficient control of the felling in terms of the Water Framework Directive objectives highlighted by FCS.

61. Ministers note FCS's concerns relating to the carbon saving potential of the Development and have had regard to advice from SEPA and the findings of the Reporter in this respect. Their consideration of this matter is set out in more detail in the section of this letter headed "Renewable energy generation and associated policy benefits".
62. Scottish Ministers have had regard to the advice from FCS and have imposed the following planning conditions: (18) Construction and Environment Management Document to ensure that all construction operations are carried out in a manner that minimises their impact on road safety, amenity and the environment, and that the mitigation measures contained in the Environmental Statement accompanying the application, or as otherwise agreed, are fully implemented; (19) Ecological Clerk of Works to protect the environment from the construction and operation of the Development and secure final detailed information on the delivery of all on-site mitigation projects; and (20) Pre-Construction Species Survey and Protection Plan and Protected Bird Species, Vegetation and Tree Felling Monitoring, Surveys and Reporting to ensure that impacts on protected species, vegetation and of tree felling are identified, reported on and in the case of protected species mitigated appropriately.
63. Halcrow indicated in relation to the information submitted in 2007 that the peat stability report was of poor quality and therefore did not wish to carry out a full review – their concerns regarding the quality of the report were intimated to the developer.
64. Halcrow was subsequently acquired by CH2M Hill, which responded on 20 September 2013 indicating that the revised application did not provide a sufficiently robust assessment of the peat landslide risk. It made a number of recommendations on how this could be addressed by the Company and suggested a number of conditions that could be applied to any consent.
65. On 3 February 2014, CH2M Hill informed Scottish Ministers that it had carried out a site visit which it had used to validate the methods used to produce the peat landslide risk assessment on behalf of the Company and verify the reported site characteristics. It advised that it was now content that the assessment of the peat landslide risk in the revised application was sufficiently robust.
66. Scottish Ministers have had regard to the advice from Halcrow / CH2M Hill and have imposed deemed planning condition (22) Peat Stability Plan to minimise the risk of peat failure arising from the Development.
67. The Health and Safety Executive responded to the consultation on the application stating that it did not object.
68. Highlands and Islands Airports Limited (HIAL) did not object to the proposal but indicated that the CAA should be contacted for their views on the application. This was done.
69. HIAL responded on 19 August 2013 stating that it did not object to the revised application, subject to the requirements it stipulated for red obstacle lights fitted to the turbines being met. It also recommended that the development be notified to the CAA. This was done.
70. Scottish Ministers have had regard to potential aviation impacts and imposed deemed planning condition (10) Aviation Lighting and Information to ensure that the erected turbines

present no air safety risk and in a manner that is acceptable to local visual impact considerations.

71. Historic Scotland responded to the application stating that it did not object and was broadly content with the contents of the Environmental Statement; it agreed with the Company that the development would have a moderately significant impact on Ben Grianmhor, but did not consider the impact of the development on the monument to be so unacceptable as to warrant an objection.

72. Historic Scotland responded to the consultation on the revised application on 19 September 2013 and did not object.

73. On 8 December 2014 Historic Scotland informed Ministers that its position on the revised 39 turbine application remained the same.

74. The John Muir Trust responded on 7 October 2013 indicating that it did not intend to comment on the revised application. On 12 November 2014 it responded to the consultation on the revised 39 turbine proposal stating that the application should not be granted approval due to its cumulative, environmental and socio-economic impact which would outweigh any benefits.

75. Scottish Ministers have had regard to the response from the John Muir Trust and have imposed deemed planning condition (18) Construction and Environmental Management Document to ensure that all construction operations are carried out in a manner that minimises their impact on amenity and the environment, and that the mitigation measures contained in the Environmental Statement accompanying the application, or as otherwise agreed, are fully implemented.

76. The John Muir Trust's position is considered more fully in the PLI report appended to this decision letter.

77. The Joint Radio Company responded on 12 September 2012 indicating that it did not object to the application. It responded to the consultations on the revised application on 23 August 2013 and on the revised 39 turbine application on 18 November 2014, indicated in each response that its position remained unchanged.

78. Melvich Community Council responded on 4 October 2013, enclosing details of a door to door survey it had carried out in which 111 objections were recorded and 5 in support.

79. NATS did not object to the application and asked to be further consulted on any changes to the proposal.

80. NATS responded to the consultation on the revised application on 25 July 2013, and the consultation on the further revised 39 turbine proposal on 18 November 2014, each time stating that it did not object as it did not conflict with its safeguarding criteria.

81. The Northern District Salmon Fisheries Board (NDSFB) objected to the application, recommending that a full and independent baseline survey of the salmon and trout within the Strathly River system, along with a survey of the condition of the system itself, should be carried out. This would contribute to design and construction methodology, allow monitoring of construction to mitigate any effects on the fish and the system itself, and set the standard for the state that the system and the salmonid population should be left in after completion.

82. The NDSFB submitted a response to the consultation on the revised application on 27 October 2013, enclosing a report from consultants it had commissioned. The report made recommendations including that the CEMP address water abstraction for concrete batching to ensure no detriment to salmonids; that risks of nutrient leaching from decomposing wood waste on site be addressed; that adequate buffer distances between turbines and water bodies be maintained; that seasonal mitigation measures for salmonid embryos be adopted for high-risk construction activities; that consideration be given to an improved water quality monitoring regime with input from the NDSFB to target high-flow transients, stream habitat, fish and invertebrate data. The report also recommended that the NDSFB be consulted on the CEMP and have access to the Ecological Clerk of Works (ECoW).

83. Scottish Ministers have had regard to the potential impacts on fisheries and have imposed conditions attached to the deemed planning permission including (17) Micro-Siting to enable appropriate micro-siting within the site enabling the Developer to respond to site-specific ground conditions, while enabling the planning authority to retain effective control over any changes to layout or construction activities in the vicinity of watercourses and groundwater dependent terrestrial ecosystems that may have ramifications for the environment; (18) Construction and Environmental Management Document to ensure that all construction operations are carried out in a manner that minimises their impact on amenity and the environment, and that the mitigation measures contained in the Environmental Statement accompanying the application, or as otherwise agreed, are fully implemented; and (19) Ecological Clerk of Works to protect the environment from the construction and operation of the Development and secure final detailed information on the delivery of all on-site mitigation projects.

84. The Nuclear Safety Directorate did not respond to the consultation on the application.

85. OFCOM responded to the consultation on the application stating that it did not object.

86. RSPB Scotland responded to the 2007 consultation to object to the application on the grounds that the application, on its own and in combination with other proposals, is likely to adversely affect the integrity of the adjacent Special Protection Area (SPA) and Special Area of Conservation (SAC) and that the proposal is contrary to the Highland region Structure Plan, Policy N1 and the Highland Renewable Energy Strategy and Planning Guidelines. RSPB Scotland stated that it felt the potential impacts of the development had been understated in the Environmental Statement in regard to the SPA and the SAC.

87. It stated that further information was required regarding the potential impacts upon hen harrier, breeding golden eagle, red-throated and black-throated diver, and greenshank.

88. RSPB Scotland responded to the consultation on the revised application on 31 October 2013 and objected for the reasons it stated as follows: the development would be likely to adversely affect the integrity of the adjacent Caithness and Sutherland Peatlands Special Protection Area (SPA), Ramsar site and the underlying SSSIs; the development would be likely to result in unacceptable harm to a range of bird species, most notably greenshank, hen harrier and red-throated diver but also black-throated diver, golden eagle, golden plover, dunlin and wood sandpiper; the development would prevent the restoration or re-establishment of the conservation value of the site from its current damaged state, as required by regulations 3 and 3A of the Conservation (Natural Habitats & c.) Regulations 1994 (as amended) which implement the Habitats and Birds Directives in Scotland; the development would be inappropriate for a sensitive site in the very heart of the internationally acclaimed Flow Country, which is on the UK Tentative List for inscription as a World Heritage Site; the development would be likely to result in a permanent legacy of turbine bases, tracks

and damaged peatland hydrology following decommissioning, to the long-term detriment of the prospects of restoration or re-establishment of internationally important blanket bog habitats; and that the likely significant adverse environmental effects of the development would not be outweighed by the contribution it would make to renewable energy targets, for which alternative sites exist across Scotland.

89. On 9 January 2015, RSPB Scotland informed Ministers that it objected to the revised 39 turbine proposal for the following reasons: the proposed development would be likely to result in unacceptable harm to greenshank, hen harrier, red-throated diver, and wood sandpiper; adverse effects of the proposed development on the integrity of the adjacent Caithness and Sutherland Peatlands Special Protection Area (SPA), Ramsar site and the underlying SSSIs cannot be ruled out; the proposed development would result in a permanent legacy of turbine bases, roads, hard-standings and damaged peatland hydrology, even after decommissioning. This would permanently constrain not only peatland habitat restoration on the site itself, but also reestablishment of the conservation value of the site to its wider setting in the Caithness and Sutherland Peatlands Special Area of Conservation (SAC) and the SPA. This would be inconsistent with the over-arching objectives of the Habitats and Birds Directives, and could also undermine potential inscription of the Flow Country as a UNESCO World Heritage Site; the proposed development would be contrary to the development plan; and that the carbon payback period of the development is likely to have been significantly underestimated.

90. On 24 May 2016, RSPB Scotland provided details to Scottish Ministers of representations from its supporters who had expressed their wish to object to the proposed Strathy South wind farm, via online and postcard campaigns, on grounds that the proposal would set back years of habitats restoration in the Flow Country and threaten golden eagles, hen harriers, red- and black-throated divers, greenshanks, dunlins and golden plovers. Details of 653 objections by postcard, and 1425 online objections were forwarded by RSPB Scotland to Scottish Ministers.

91. RSPB Scotland's position is considered more fully in the PLI report appended to this decision letter.

92. Scottish Ministers have had regard to the views of RSPB Scotland and for the same reasons detailed above in addressing the advice from SNH have imposed the following conditions attached to the deemed planning permission to address points raised by RSPB Scotland and incorporate advice from SNH prior to discharge of the conditions: (3) Decommissioning and Restoration Plan; (8) Buildings and Other Facilities; (16) Main Access Route; (17) Micro-Siting; (18) Construction and Environment Management Document; (19) Ecological Clerk of Works; (20) Pre-Construction Species Survey and Protection Plan and Protected Bird Species, Vegetation and Tree Felling Monitoring, Surveys and Reporting; (22) Peat Stability Plan; (23) Habitat Management Plan; and (24) Deer Management Plan.

93. Ministers have had regard to the extension of The Flows Nature Reserve (managed by RSPB Scotland) to the southern and eastern wind farm site boundaries and its designation as Forsinard Flows National Nature Reserve, agreed by SNH effective from 30 September 2016. Scottish Ministers conclude that the mitigation measures secured by condition (including tree felling, habitat management and peatland restoration) are consistent with the objectives for the management of The Flows Nature Reserve and Forsinard Flows National Nature Reserve.

94. Scottish Water responded on 4 October 2013 and did not object to the revised proposal. It indicated it did not have any Drinking Water Protected Areas within the site boundary or vicinity of the development that could potentially be affected.
95. Scottish Water responded to the consultation on the revised 39 turbine application on 9 January 2015. It echoed its previous advice and advised the company to obtain up-to-date relevant asset plans for below-ground assets from its Asset Plan Provider. It also advised a list of precautions to be taken to protect drinking water and assets.
96. Scottish Ministers have had regard to the potential impacts on drinking water and Scottish Water assets noting that Scottish Water has indicated it has no Drinking Water Protected Assets in the vicinity of the proposed development, while SEPA recommended measures to protect the four private water supplies identified in the Environmental Statement.
97. Ministers have imposed conditions attached to the deemed planning permission to safeguard the water environment including (17) Micro-Siting to enable appropriate micro-siting within the site enabling the Developer to respond to site-specific ground conditions, while enabling the planning authority to retain effective control over any changes to layout or construction activities in the vicinity of watercourses and groundwater dependent terrestrial ecosystems that may have ramifications for the environment; and (18) Construction and Environmental Management Document to ensure that all construction operations are carried out in a manner that minimises their impact on amenity and the environment, and that the mitigation measures contained in the Environmental Statement accompanying the application, or as otherwise agreed, are fully implemented. Scottish Ministers have included a requirement for a Private Water Supply Protection Plan within the Construction and Environmental Management Document to provide details of specific mitigation measures including drawings or plans showing the location of the supply in relation to proposed infrastructure and what mitigation is proposed.
98. The Scottish Wildlife Trust responded on 25 October 2013 and advised Ministers to refuse consent as it considered there was insufficient evidence to carry out the Appropriate Assessment required for the Caithness and Sutherland Peatlands SPA, SAC, Ramsar site and associated SSSIs. The trust added that although there were some positive effects through removal of non-native conifer plantation, it did not believe that wind farm construction and peatland restoration were compatible on the same site. It added that it considered that greenhouse gas emissions from peat disturbance would undermine the Scottish Government's climate change obligations, and that it shared RSPB Scotland's concern that the development would result in unacceptable harm to bird species including greenshank, hen harrier, red throated diver, black throated diver, golden plover and dunlin.
99. On 8 January 2015, the Scottish Wildlife Trust responded to the consultation on the revised 39 turbine proposal and informed Ministers that it maintained its objection and added that it also objected on grounds of impacts on deep peat and inadequate peat restoration; and that it could not be stated beyond reasonable scientific doubt that there would be no adverse effect on the integrity of the SPA.
100. Scottish Ministers have had regard to the views of the Scottish Wildlife Trust and for the same reasons detailed above in addressing the advice from SNH have imposed the following conditions attached to the deemed planning permission to address points raised by the Scottish Wildlife Trust and incorporate advice from SNH prior to discharge of the conditions: (3) Decommissioning and Restoration Plan; (8) Buildings and Other Facilities; (16) Main Access Route; (17) Micro-Siting; (18) Construction and Environment Management

Document; (19) Ecological Clerk of Works; (20) Pre-Construction Species Survey and Protection Plan and Protected Bird Species, Vegetation and Tree Felling Monitoring, Surveys and Reporting; (22) Peat Stability Plan; (23) Habitat Management Plan; and (24) Deer Management Plan.

101. Scotways responded on 30 September 2013 and objected to the revised application due to the anticipated closure of a Scottish Hill Track route (also used as the main access to the bothy maintained by the Mountain Bothies Association at Lochstrathy) during construction. It responded to the consultation on the revised 39 turbine proposal on 6 January 2015 and indicated that its position remained unchanged.

102. Scottish Ministers have had regard to the response from Scotways and have imposed conditions attached to the deemed planning permission (14) Access Management Plan in order to safeguard public access during the construction, operation and restoration phases of the Development and (18) Construction and Environmental Management Document to ensure that all construction operations are carried out in a manner that minimises their impact on amenity and the environment, and that the mitigation measures contained in the Environmental Statement accompanying the application, or as otherwise agreed, are fully implemented.

103. Strathy / Armadale Community Council responded on 2 June 2014 indicating that it was in support of the revised application and that economic and employment benefits from the proposal had already been manifested in the community.

104. On 7 January 2015, the community council responded to the consultation on the revised 39 turbine proposal stating that that the environmental benefits (such as through peatland restoration) would outweigh any impacts, and that it continued to support the proposal for the reasons it had previously given.

105. Consultants JMP responded to the consultation on the revised application on behalf of Transport Scotland (TS), indicating that TS maintained its view that there would be no significant traffic or environmental impacts associated with additional traffic on the trunk road network and also confirmed that it did not require any further information in this regard.

Representations from other organisations and members of the public

106. A total of 272 letters or emails making representations to the Scottish Government on the wind farm application have been received since 2007, of which 245 were objections and 27 were in support. The key reasons for objection raised by the majority were impacts on wildlife, habitats, and designated sites however a minority of objectors raised other concerns including visual impact; tourism impact; cumulative effect with other wind farms in the area; loss of amenity at the location; harm to the local economy; misalignment with local planning policy/strategy; peat destruction; negative impact on future peatland restoration potential, infrastructure impacts; forestry impacts; water pollution; that wind energy was intermittent or inefficient in comparison with other forms of energy; transport / traffic impacts; noise / vibration; that Scotland had already met renewables targets; that property would be devalued; impacts on archaeological or heritage sites; detrimental effect on the potential for the Flow Country to achieve World Heritage Site status; health and safety risks; that there had been inadequate public consultation; telecommunications impacts; strobe effect & shadow flicker; the need for a Public Local Inquiry, and aviation and radar impacts.

107. RSPB Scotland forwarded to Scottish Ministers the details of 653 postcard and 1425 online objections it had received from individuals, raising concerns about the ornithological and peatland impact of the development.

108. Individuals also wrote in favour of the revised application because of job creation, support for local businesses, financial aid, peatland restoration and limited visual intrusion.

109. Dr Paul Monaghan MP (member for Caithness, Sutherland and Easter Ross) wrote to the Minister on 13 February 2017 in support of the development stating that Strathy was a fragile community facing economic decline and that the development would provide employment, community benefit and confidence to families seeking inward investment, with minimal environmental impact.

110. Scottish Ministers received a letter from Professor Hans Joosten of the International Mire Conservation Group (IMCG) dated 1 March 2016, which post-dated the Public Local Inquiry. The IMCG concluded that the location of the Development within the heart of the Flow Country would significantly alter the visual character of very extensive and uninterrupted views of the peat-dominated landscape. The letter also referred to the consideration of the Flow Country for UNESCO World Heritage status and urged Ministers to refuse the application.

Public Local Inquiry (PLI)

111. As the Highland Council objected to the scheme, Scottish Ministers caused a public inquiry to be held in accordance with paragraph 2(2) of Schedule 8 to the Electricity Act. The application (as amended) was passed to the Directorate of Planning and Environmental Appeals (DPEA) on 3 September 2014.

112. On 27 October 2014, following referral of the application to the DPEA, the Company decided to further modify the application from 47 to 39 turbines. As a consequence, the Defence Estates (MoD) withdrew an outstanding objection. However, SNH, the Highland Council and others maintained objections to the proposed development.

113. The hearings and inquiry sessions were held on 23-24 April 2015 and 9-13 June 2015. Closing submissions were exchanged in writing, with the final closing submission (on behalf of the Company) being lodged on 19 October 2015. The Reporter, J Alasdair Edwards, also made site visits to the application site and the surrounding area.

114. A copy of the Reporter's report to Scottish Ministers is provided at **Annex 3**. The principal issues addressed in the report are summarised below. Ministers accept the conclusions and reasoning of the Reporter, save for proposed amendments to conditions as discussed in more detail below.

The Scottish Ministers' Considerations

Environmental Matters

115. The Scottish Ministers are satisfied that an environmental impact assessment has been carried out. Environmental information including the Environmental Statement (as amended) has been produced and the applicable procedures regarding publicity and consultation laid down in regulations have been followed. The environmental impacts of the

proposed development have been assessed and the Scottish Ministers have taken the environmental information into account when reaching their decision.

116. The Scottish Ministers are satisfied that the Company, when formulating its proposal to construct the generating station, had regard to the desirability of preserving natural beauty, of conserving flora, fauna, and geological and physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic, or archaeological interest.

117. The Scottish Ministers have had regard to the desirability of the matters mentioned in the previous paragraph and the extent to which the Company has done what it reasonably could to mitigate the effects of the development on those features, and are satisfied that the Company has done what it reasonably could with regard to mitigation.

118. The Scottish Ministers have considered fully and carefully the Application, Environmental Statement (as amended), the PLI report, all relevant responses from consultees and third party representations received. Ministers have also taken account of the extension of the Flows National Nature Reserve to the southern and eastern wind farm site boundaries, agreed by SNH effective from 30 September 2016, and the adoption by Highland Council of its Onshore Wind Energy Supplementary Guidance in November 2016. The Minister for Business, Innovation and Energy, accompanied by Scottish Government officials, visited viewpoints described in the report entitled 'Strathy South Wind Farm Further Information Report (T39 Layout)' published by Environ dated 12 November 2014 looking towards the site of the proposed Strathy South wind farm from the A836 near Borgie (viewpoint 3), from Strathy (viewpoint 4) and from the East of Melvich (viewpoint 13) on 26 February 2018.

Main determinative issues

119. The Scottish Ministers, having taken account of all relevant information, consider that the main determining issues are:

- the extent to which the development accords with and is supported by Scottish Government policy and the terms of the development plan¹;
- the significant effects of the development on the environment, more particularly described in the Report at the reference provided in footnotes below, which are, in summary:
 - (a) the impact on the Caithness and Sutherland Peatlands SAC and the Caithness and Sutherland Peatlands SPA and Ramsar Site²;
 - (b) ornithological impacts³;
 - (c) the landscape and visual impact of the development⁴;
 - (d) impacts on wild land⁵;
 - (e) impacts on ecology⁶;
 - (f) impacts on peat⁷, and;
 - (g) benefits of removal of forestry in the long term⁸;

¹ Addressed by the Reporter in Chapter 2 of the Report

² Addressed by the Reporter in Chapters 5, 6 and 7 of the Report

³ Addressed by the Reporter in Chapter 5 of the Report

⁴ Addressed by the Reporter in Chapter 3 of the Report

⁵ Addressed by the Reporter in Chapter 4 of the Report

⁶ Addressed by the Reporter in Chapter 6 of the Report

⁷ Addressed by the Reporter in Chapter 7 of the Report

- the estimated contribution made by the development to reducing CO₂ emissions⁹, and;
- the renewable energy benefits of the development¹⁰.

Scottish Government Policy Context

120. The National Planning Framework 3 (NPF3) sets out the Scottish Government's commitment to establishing Scotland as a leading location for the development of renewable energy technology. NPF3 describes how, in our more remote areas, this will bring new employment, reverse population decline and stimulate demand for development and service. NPF3 considers that onshore wind will continue to make a significant contribution to diversification of energy supplies, in the right places, with a desire to not see wind farm development in our National Parks and National Scenic Areas. Ministers agree with the Reporter's conclusions that the development would support the vision and aims of National Planning Policy Framework 3 to make Scotland 'a low carbon place' by capitalising on the wind resource and encouraging community ownership.

121. The Scottish Planning Policy 2014 (SPP) introduces a presumption in favour of development that contributes to sustainable development. Paragraph 28 of SPP sets out that the planning system should support economically, environmentally and socially sustainable places by enabling development that balances the costs and benefits of a proposal over the longer term. The aim is to achieve the right development in the right place; it is not to allow development at any cost. The Reporter explains in paragraph 12.11 of his report that his reasoning follows the guiding principles set out in paragraph 29 of SPP.

122. Paragraph 29 of SPP sets out that policies and decisions should be guided by certain principles, including: giving due weight to net economic benefit; supporting delivery of infrastructure, including energy, and; protecting natural heritage, including landscape and the wider environment. SPP also states that the planning system should support the development of a diverse range of electricity generation from renewable energy technologies – including the expansion of renewable energy generation capacity.

123. The Reporter has identified some negative impacts as a result of the proposed development throughout his findings (particularly related to landscape and visual impact, chapter 3 of the report) and in his view, these are limited in scope and taking a balanced view are acceptable overall. He concludes that the proposal would make a contribution to sustainable development.

124. Paragraph 169 of SPP states that proposals for energy infrastructure developments should always take account of spatial frameworks for wind farms and heat maps where these are relevant. The SPP states that further consideration will be required to demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation. Ministers have given consideration to the impacts of the development on deep peat and carbon rich soils but agree with the Reporter that, on balance, the benefits of forestry removal and peatland restoration which the Development will deliver overcome these impacts.

⁸ Addressed by the Reporter in Chapters 3, 5, 6, 7 and 8 of the Report

⁹ Addressed by the Reporter in Chapter 8 of the Report

¹⁰ Addressed by the Reporter in Chapter 2 of the Report

125. The Reporter highlights key policy principles set out in paragraph 194 of SPP to maintain distinctive landscape character; conserve and protect sites and species; promote the protection of the water environment; seek to protect soils; and seek benefits for biodiversity wherever possible.

126. It is further noted that in remote rural areas, where new development can often help to sustain fragile communities, plans and decision-making should generally:

- encourage sustainable development that will provide employment;
- include provision for development which supports sustainable economic growth in a range of locations, taking account of environmental protection policies and addressing issues of location, access, siting, design and environmental impact.

127. Ministers have considered the fact that there would be impacts from the development on sensitive and remote areas, as detailed in the Report. The location of the turbines has been considered carefully and the landscape and visual impacts have been limited where possible, through the design iteration process, in particular through the revisions to site layout. Ministers agree with the Reporter that: the localised landscape impact of the proposed development would not overly diminish or harm the landscape characteristics of the sweeping moorland or lone mountains landscape character areas (or appreciation of these); the development is not sited within any wild land area or National Scenic Area (NSA); and, the proposed turbines would only be visible for a limited extent within the Assynt-Coigach NSA, the North-West Sutherland NSA and summits within the Kyle of Tongue NSA. Ministers adopt the Reporter's reasoned conclusion that the proposed development would do little to distract from the scenic qualities, appearance and character of the Kyle of Tongue, Assynt-Coigach, and North-West Sutherland NSAs and therefore, the impact on NSAs would be acceptable.

128. Ministers agree with the Reporter that the Development would make a significant contribution towards meeting greenhouse gas emission and renewable electricity targets, as well as the diversification of energy supplies.

129. Ministers agree with the Reporter's conclusions that the Development would provide a significant economic investment in the local area, Highland and Scotland. It would support local contractors; provide job opportunities; and support local services, facilities and accommodation providers. In doing so, there would be opportunities to aid in population retention.

130. In considering all of the aspects together, Ministers agree with the Reporter that overall the Development is supported by the SPP.

Compatibility with Local Development Plan and Supplementary Guidance

131. The Highland Council maintained its objection to the proposed application after modification to 39 wind turbines. It considers the application to be contrary to policies 57 and 67 of the Highland-wide Local Development Plan 2012.

132. The Reporter found (in paragraph 12.12 of his Report) that: the proposal would support the Highland population with limited environmental impacts weighed against social and economic gains; tree felling would be acceptable in this instance as an alien feature in the landscape (and following the advice of the Forestry Commission to not re-stock commercial forestry in proximity to designated sites); the disturbance of peat and measures to protect, re-introduce, move, store, maintain, and restore it have been adequately

addressed; the impact on peat resources would be acceptable and beneficial as restoration proceeds; there would be no adverse impact on protected species; local landscape characteristics, special landscape areas and national scenic areas would be respected; no uncontrolled pollution would arise as a consequence of the development; there would be no flood risk; and, public access would be maintained.

133. The Reporter found that the proposal would comply with Highland-wide local development plan policies 28 (Sustainable Development), 29 (Design Quality and Place Making), 51 (Trees and Development), 52 (Principle of Development in Woodland), 55 (Peat and Soils), 58 (Protected Species), 59 (Other Important Species), 60 (Other Important Habitats and Article 10 Features), 61 (Landscape), 64 (Flood Risk), 72 (Pollution), 77 (Public Access) and 78 (Long Distance Routes).

134. The Reporter went on to conclude the Development would have no unacceptable impact on features of local/regional importance and no significant adverse impacts on features of national importance. Likely significant effects were noted by the Reporter in relation to the Caithness and Sutherland Peatlands SPA, however he found the proposed development would not have an adverse effect on the integrity of the SPA. Similarly the Reporter predicted no likely significant effects in relation to the Caithness and Sutherland Peatlands SAC. The Reporter concluded that the proposed development complies with policy 57 (Natural, Built and Cultural Heritage).

135. Policy 67 (Renewable Energy Developments) closely follows paragraph 169 of SPP in relation to a list of considerations that are required for renewable energy developments to be considered satisfactory. Following the conclusion in relation to SPP, the Reporter found that the proposal would be compliant with the provisions of policy 67.

136. The Reporter noted that the proposal would allow the Melness and Tongue Community Development Trust to gain ownership of part of the development. Policy 68 allows consideration of community ownership where a community would be significantly impacted by a proposal. In this case, no community would be significantly impacted by the proposed development. Policy 68 (Community Renewable Energy Developments) is therefore not directly applicable.

137. The Reporter found that the proposal would be consistent with the council's supplementary planning guidance presented in the following publications:

- Highland Renewable Energy Statement and Planning Guidance (2006).
- Interim Supplementary Guidance – Onshore Wind Energy (2012).
- Highland Statutorily Protected Species Supplementary Guidance (2013).
- Draft Onshore Wind Energy Supplementary Guidance (2015).

138. Ministers agree with the Reporter on each of these points in the foregoing paragraphs 132 – 137 of this letter regarding compatibility with the Local Development Plan and supplementary guidance but do not agree with the Reporter's finding that the community ownership offered is a material consideration – reference should be made to the section of this letter headed "Economic impact and Renewable Energy Benefits (including Tourism)" for further details.

139. Ministers have also considered Highland Council's adopted Onshore Wind Energy Supplementary Guidance (November 2016) ("the adopted guidance") where it differs from the Draft Onshore Wind Energy Supplementary Guidance (2015) ("the draft guidance") considered by the Reporter. Ministers do not consider that the change from the draft

guidance to the adopted guidance creates any new provisions, whose substance has not already been addressed by the Reporter, with which the Development would not be consistent.

140. Ministers conclude that on balance, the proposed development complies with the development plan when read as a whole.

Possible Effects on European and International Protected Sites and Ornithological Impacts

141. During the inquiry ornithological and ecological impacts of the proposal, including in relation to the Ramsar site, SPA and SAC, were examined thoroughly by the Reporter and presented in the Report.

Conservation of Habitats and Species Regulations

142. The Conservation of Habitats and Species Regulations 2017 (“the Habitats Regulations”) require Scottish Ministers to consider whether the proposed development would be likely to have a significant effect on a European site or European offshore marine site (either alone or in combination with other plans or projects), as defined in the Habitats Regulations, and if the development is directly connected with or necessary to the management of the site.

Caithness and Sutherland Peatlands Special Area of Conservation (“the SAC”)

143. In 2007, SNH took the view that the development proposed in the Environmental Statement entitled ‘Strathy South Wind Farm Environmental Statement’ volumes 1 to 4 dated June 2007 was likely to have a significant effect on the qualifying interests of the SAC. SNH’s view was that as such, Scottish Ministers, as the competent authority, were required to undertake an appropriate assessment of the impacts on the SAC.

144. SNH advised in a letter dated 8 January 2015 that it had come to the view that it is unlikely that the Development would have a significant effect on any qualifying interests of the SAC either directly or indirectly and that the SAC did not require any appropriate assessment.

145. Having considered the arguments presented by all parties and the reasoning of the Reporter, Ministers agree with the Reporter’s reasoning and findings in relation to the SAC and accept his conclusion that no likely significant effects in relation to the Caithness and Sutherland Peatlands SAC are predicted. Ministers conclude the Development is not likely to have a significant effect on the SAC (either alone or in combination with other plans or projects) and is not directly connected with or necessary to the management of the SAC.

146. Ministers conclude that the Habitats Regulations do not require an appropriate assessment to be carried out of the implications of the Development for the SAC in view of the conservation objectives of the SAC.

Caithness and Sutherland Peatlands Special Protection Area (“the SPA”)

147. In 2007, SNH took the view that the development proposed in the Environmental Statement entitled ‘Strathy South Wind Farm Environmental Statement’ volumes 1 to 4 dated June 2007 was likely to have a significant effect on the qualifying interests of the SPA. SNH’s

view was that as such, Scottish Ministers, as the competent authority, were required to undertake an appropriate assessment of the impacts on the SPA.

148. Having considered the arguments presented by all parties and the reasoning of the Reporter, Ministers agree with the Reporter's reasoning and findings in relation to the SPA, and consider the Development would be likely to have a significant effect on the SPA (either alone or in combination with other plans or projects). Ministers consider the Development is not directly connected with or necessary to the management of the SPA. Ministers adopt the Reporter's conclusion that an assessment (now under Regulation 63 of the Conservation of Habitats and Species Regulations 2017) requires to be made of the implications of the Development for the SPA in view of the conservation objectives of the SPA.

149. SNH's position regarding impacts on the SPA is as outlined by the Reporter in paragraphs 5.353 to 5.600 of the Report. SNH objects due to harmful impacts on the Caithness and Sutherland Peatlands Special Protection Area, particularly to red-throated diver (through displacement and assumed loss of up to two breeding sites; it also considers collision risk may be significant) and greenshank (potential loss of 10 to 12 breeding pairs). It concludes there will be an acceptable impact on hen harrier and wood sandpiper.

150. RSPB Scotland's position regarding impacts on the SPA is as outlined by the Reporter in paragraphs 5.601 to 5.705 of the Report. It objects due to unacceptable harm to greenshank, hen harrier, red-throated diver, and wood sandpiper; and adverse effects on the integrity of the Caithness and Sutherland Peatlands Special Protection Area.

151. While criticisms were made of the ornithology survey methods and data, the Report goes into considerable detailed examination of the data collection methods, the criticisms of these (from SNH and RSPB Scotland), and the merits of these criticisms alongside the explanations provided by the Company.

152. The principal argument from SNH for the dismissal of the Company's greenshank collision risk model, and SNH's subsequent reliance upon the collision risk modelling that SNH commissioned (SNH O-44, Trinder & Furness 2015), was SNH's view as to weaknesses in the Company's survey methodologies and resultant data. In addition methodological issues were highlighted as the key reason for SNH maintaining their objection to the wind farm due to potential red-throated diver displacement effects.

153. Ministers consider that the Report has been written in a methodical, thorough and objective manner. They agree with the findings of the Report that there is no valid reason to suggest that the data collected by the Company should not be used in the assessments for greenshank and for red-throated diver. Ministers agree with the Reporter that the reasons given by SNH for not accepting the Company's greenshank and red-throated diver data are not supported by the information presented, and that the data can be relied upon to inform the assessment.

Collision Risk Modelling (greenshank)

154. The position of RSPB Scotland and SNH was that due to issues with the Company's survey methodologies and therefore data, the outputs from the Company's collision risk model could not be relied upon. As discussed above, RSPB Scotland and SNH's position in relation to the survey methods and resultant data is not supported by the information presented, and Ministers cannot identify any reason why the Company's collision estimates should not be relied upon.

155. The collision estimates from the SNH commissioned collision risk modelling (SNH O-44, Trinder & Furness 2015) are different to those produced by the Company. However, while both the approach taken by the Company and the SNH use the same collision risk model, they incorporate very different information on bird behaviour and are therefore estimating the number of collisions associated with very different situations.

156. The Company's modelling estimates the number of collisions using bird data that the Company gathered from the Strathy South site. The SNH commissioned modelling estimates the number of collisions based on hypothetical assumptions about the number of birds present, flight activity/behaviour, etc. that are not based on data (or qualitative information) from the site in question. Instead, the SNH approach uses information gathered from, or informed by, other sources including some published in 1951 as a natural history text.

157. Ministers have had regard to SNH's position in relation to the applicant's flight data; that the area of viewsheds visible at relevant heights from the vantage points used in the collision risk calculations is incorrect; and that visibility is more limited; that the timing of survey work was unsatisfactory as too little survey work had been carried out in the early part of the day, and the early part of the season; and that there were problems with the distance correction in the collision risk calculation.

158. Ministers consider that the relevance or applicability of the greenshank flight activity/behaviour information incorporated into the SNH approach to the Strathy South site (or indeed any real location) has not been demonstrated by SNH. No cogent argument has been provided by SNH to suggest that it should be used in preference to the site specific data gathered by the Company, or that it provides a realistic estimate of likely collisions at the site.

159. The SNH approach assumes that the currently forested areas within the wind farm site not occupied by greenshank will be rapidly colonised by breeding greenshank on construction of the wind farm. As discussed in the Report, this assumption is not supported by findings from similarly cleared forestry in the area. The assumption of colonisation substantially inflates the number of collisions estimated for the wind farm. It also appears strange to include collisions of birds nesting outwith the SPA boundary in an assessment for a population that is taken to be the number of pairs breeding within the SPA boundary. The approach taken by SNH inflates the effects relative to the SPA population.

160. It is acknowledged in the Furness and Trinder report that the use of an avoidance rate of 98% is overly precautionary and should be 99%. This increase in avoidance rate would result in a halving of the estimated number of collisions.

161. It is also considered that other assumptions made in SNH's theoretical approach are likely to further inflate the estimated number of collisions. There is no reasonable argument put forward to support the view that the Furness and Trinder collision model provides a realistic estimation of collisions at the proposed development.

Greenshank

162. The position of SNH in relation to greenshank is summarised by the Reporter at paragraph 5.555 of the Report. He explains the key reasons SNH believes an appropriate assessment of the SPA must reach a negative conclusion are (a) unreliability of flight activity data and its assessment; (b) lack of reliable collision risk estimates, given changes that would occur in habitat as woodland is removed and blanket bog is restored; and (c) new SNH modelling in a report commissioned from MacArthur Green.

163. Ministers agree with the reasoning and findings of the Reporter in chapter 5 of the Report in relation to greenshank. Ministers consider that it is appropriate for the greenshank data collected by the Company to be used in reaching conclusions on potential impacts on the SPA, and that substantially more weight should be given to the collision estimates provided by the Company. Ministers adopt the conclusions of the Reporter that there would be no deterioration of the greenshank habitat within the SPA; that the predicted mortality as a result of collisions with turbines is very small and not of a magnitude that could have an adverse effect on the population of greenshank as a viable component of the SPA; and that there would not be any significant disturbance or displacement of greenshank.

164. Ministers conclude, as the Reporter finds at paragraph 5.792 of the Report, that in relation to the greenshank qualifying species, the grant of consent with conditions would not adversely affect the conservation objectives for the SPA. Ministers are satisfied this conclusion is beyond reasonable scientific doubt.

Red-throated Diver

165. The concerns of SNH regarding this species are summarised at paragraph 5.591 of the Report. The Reporter provides clear reasoning at paragraphs 5.732 – 5.736 in respect of the concern from SNH about losing a breeding pair from lochan 44. In paragraphs 5.737 – 5.742, the Reporter explains why he is not persuaded that lochan 64 is a regularly used breeding site and outlines mitigation measures. In paragraphs 5.743 – 5.744, the Reporter considered the disturbance predicted by SNH from construction, operation and decommissioning at possible breeding sites at lochans 54, 111 and 119 and found it highly or very unlikely that there would be disturbance to red-throated diver at these lochans.

166. The Reporter considered the potential barrier effects identified by SNH on breeding pairs at lochan 151 and also, on the basis of a study from Smøla, lochans 45, 76, 86, 111 and 119. In paragraphs 5.745 – 5.752 of the Report, the Reporter considered evidence of flight lines and commuting patterns and found no reasonable scientific evidence that the proposed wind farm would act as a barrier to flight activity.

167. In relation to red-throated diver, Ministers consider that the reasons given by the Reporter for disagreeing with the RSPB Scotland and SNH advice are well justified and robust. Ministers agree with the Reporter and conclude that the loss of habitat within the Caithness and Sutherland Peatlands SPA would not be significant; that the predicted mortality as a result of collisions with turbines would be very small and would not be of a magnitude that could have an adverse effect on the population of red-throated diver within the SPA; and that there would be no significant disturbance or displacement of red-throated diver, subject to the mitigation measures proposed in the breeding season which are made subject to a condition attached to the deemed planning permission.

168. Ministers conclude, as the Reporter finds at paragraph 5.757 of the Report, that in relation to the red-throated diver qualifying species, the grant of consent with conditions would not adversely affect the conservation objectives for the SPA. Ministers are satisfied this conclusion is beyond reasonable scientific doubt.

Hen harrier

169. In agreement with the Reporter, Ministers' conclusions on hen harrier are that, apart from some access tracks, there would be no direct loss of habitat within the SPA; that, subject to the mitigation measures for sward height management which the Reporter

recommended should be subject of a condition attached to the planning permission, the predicted mortality as a result of collisions with turbines is very small and not of a magnitude that could have an adverse effect on the population of hen harrier as a viable component of the SPA; and that there would be no significant disturbance or displacement of hen harrier. Condition 23 is imposed which provides the mitigation measures recommended by the Reporter.

Wood sandpiper

170. On wood sandpiper Ministers agree with the Reporter and conclude that there would be no likely significant effect on this qualifying species as a result of the proposed development.

Non-qualifying species, black-throated diver, common scoter, dunlin, golden eagle, golden plover, merlin, short-eared owl, and wigeon

171. In agreement with the findings of the Reporter, Ministers conclude that there would be no significant impact from the Development on non-qualifying species of the SPA. Ministers accept that SNH and RSPB Scotland do not dispute that there would be no significant impact on the qualifying species of black-throated diver, common scoter, dunlin, golden eagle, golden plover, merlin, short-eared owl, and wigeon. Ministers conclude there would be no significant impact on these species.

Consideration of the Conservation Objectives of the SPA

172. Ministers have had regard to the first conservation objective of the SPA and agree with the Reporter that the Development, whether on its own or in combination with other consented or proposed wind farms, would not result in the deterioration of habitats of the qualifying species nor any significant disturbance of the qualifying species.

173. Ministers have had regard to the second conservation objective of the SPA. Ministers agree with the conclusions drawn by the Reporter and are satisfied that the Development, whether on its own or in combination with other consented or proposed wind farms, would have no adverse effect on the objective to ensure for the qualifying species that the following are maintained in the long term: population of the species as a viable component of the site; distribution of the species within site; distribution and extent of habitats supporting the species; structure, function and supporting processes of habitats supporting the species; and, no significant disturbance of the species.

Summary of Conclusions by Ministers on Potential Impacts on the Integrity of the SPA

174. In summary, the Scottish Ministers, having considered the arguments presented by all parties, agree with the reasoning and findings of the Reporter in chapter 5 of the Report, and adopt for the purpose of their appropriate assessment in terms of the Conservation of Habitats and Species Regulations 2017 his conclusions in chapter 12 that the grant of consent with conditions would not, having regard to the conservation objectives for the SPA, adversely affect the integrity of the SPA. That conclusion reflects the Reporter's assessment of the evidence presented to the inquiry from which he explains he is satisfied that no reasonable scientific doubt remains as to the absence of such effects. Ministers agree that it can be concluded beyond reasonable scientific doubt that the Development will not result in an adverse impact on the integrity of the SPA.

United Nations Convention on Wetlands of International Importance especially as Waterfowl Habitat (“the Ramsar Convention”)

175. Ministers have had regard to the responsibilities to promote the conservation and wise use of wetlands under Article 3 of the Ramsar Convention. All sites in Scotland included in the List of Wetlands of International Importance maintained by the bureau established under Article 8 of the Ramsar Convention (“Ramsar Sites”) are also either Special Protection Areas or Special Areas of Conservation, designated under directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (commonly known as the Birds Directive), or Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (commonly known as the Habitats Directive).

Caithness and Sutherland Peatlands Ramsar Site (“the Ramsar Site”)

176. The Development has been assessed by SNH as having the potential to affect the Ramsar site. In its consultation responses dated 25 September 2007 and 2 October 2007 SNH informed Ministers that it objects to the Development on the grounds of insufficient information regarding potential impacts on the Ramsar site. Ministers have also considered RSPB Scotland’s position of objection in relation to the Ramsar site on the grounds the Development would cause unacceptable harm to greenshank, hen harrier, red-throated diver, and wood sandpiper; adverse effects on the integrity of the SPA, Ramsar site, and underlying SSSIs; permanent legacy of turbine bases, roads, hard-standings; and, damaged peatland hydrology even after decommissioning.

177. Paragraph 211 of SPP states that all Ramsar sites are also Natura 2000 sites and/or Sites of Special Scientific Interest and are protected under the relevant statutory regimes. The foregoing paragraphs 142 – 174 of this letter refer to the assessments by the Scottish Ministers for the SAC and the SPA, which include the species and habitats the Ramsar site has in common with the SAC and SPA. Following the conclusions of these assessments, Ministers, having had regard to the common spatial “footprint” of the SAC, SPA and Ramsar sites, have considered whether there would be any likely significant effects on the qualifying interest features of the Ramsar site which have not been addressed in their assessment of the Natura 2000 sites and ought to be considered further.

178. Ministers have had regard to SNH’s advice that the Development would have a significant effect on the breeding greylag goose population qualifying feature of the Ramsar site and further consideration is required, and that in all other respects its position on the ornithological interests of the Ramsar site mirrors that of the SPA for dunlin and greenshank, as it mirrors that of the SAC for blanket bog.

179. Ministers have considered the appraisal by SNH contained in its letter dated 2 October 2007 in which it is advised, on page 6, that the Development will not adversely affect the integrity of the Ramsar site. The appraisal by SNH considered the following factors:

- a) Greylag geese were observed flying over the proposed wind farm area resulting in some collision risk.
- b) No flights over the core risk area were at collision height.
- c) Greylag geese are large birds that are highly visible to observers when flying at collision risk height.
- d) SNH accept the use of a 99% avoidance factor in collision calculations for most geese species.
- e) Birds observed in Autumn are likely to be Icelandic birds on passage and therefore not qualifiers.

180. In relation to the appraisal by SNH referred to in the foregoing paragraph, Ministers agree with the reasoning and conclude that in relation to greylag goose, the Development will not adversely affect the integrity of the Ramsar Site.

181. Further details of the consideration given to impacts on ecology, peat and forestry which supports the conclusions in this section headed “Possible Effects on European and International Protected Sites and Ornithological impacts” are provided in subsequent sections of this decision letter. Reference should be made to the sections of this letter headed “Impacts on Peat and Forestry” and “Impacts on Ecology”. It should also be noted that conditions attached to the deemed planning permission include restrictions on micro-siting which take into account the potential impacts on the Ramsar site, SPA and SAC.

United Nations Educational, Scientific and Cultural Organisation (UNESCO) Convention Concerning The Protection Of The World Cultural And Natural Heritage

182. Scottish Ministers received a letter from RSPB Scotland dated 24 February 2016. The letter post-dated the close of the inquiry and is not reflected in the PLI report. It encloses a letter from the UK National Commission for UNESCO addressed to the UK Minister for Sport, Tourism and Heritage dated 23 December 2015, which concluded that the aspiration for nomination of the Flow Country in January 2019 as World Heritage site is realistic.

183. Matters raised by RSPB Scotland (including the evidence from their witness Professor Joosten at the PLI) which held that the Development would undermine the potential inscription of the Flow Country as a UNESCO World Heritage Site were addressed by the Reporter. The terms of this correspondence post-dating the PLI from RSPB Scotland and related correspondence from Professor Joosten representing the IMCG (summarised at paragraph 110 of this letter) in relation to World Heritage Site nomination are noted, along with the Reporter’s conclusion that any impact on the future nomination and designation process for the Flow Country World Heritage Site nomination would likely be neutral.

Landscape and Visual Impacts

184. Having considered the arguments presented by all parties and the reasoning of the Reporter, Ministers agree with the Reporter’s reasoning and findings in chapter 3 of the Report and adopt his conclusions in relation to landscape and visual impact in chapter 12 of the Report, that the application site is positioned well in relation to the surrounding topography: a u-shaped extended valley in which the proposed turbines would be relatively screened from much of the surrounding area. The application site is not located in an area subject to any landscape designation. There would be little impact on national scenic areas. Significant localised landscape impacts would occur, as would other significant landscape impacts from a limited number of locations, including within one special landscape area. There would be no significant landscape or visual impact from the identified northern estates. There would be very limited impact on residences. Again, the significant visual impacts identified would be limited to a few locations. The combination of the proposed development with the constructed Strathy North and proposed Strathy Wood wind farms would further emphasise existing significant landscape and visual impacts from various locations.

185. Ministers agree with the Reporter that the character, appearance and scenic qualities of national scenic areas would be maintained. There would be a limited number of significant landscape and visual impacts, including cumulative impacts, but these would be from

relatively remote locations. The vast majority of views from residences, routes, trails and summits assessed would have no significant landscape or visual impacts, including cumulatively and sequentially. In reaching their conclusions on landscape and visual impacts, Ministers have also taken into account points raised by Professor Joosten representing the IMCG, summarised at paragraph 110 of this letter. Ministers agree with the Reporter that the landscape and visual impact would be acceptable.

Wild Land

186. Wild land areas are recognised within SPP as areas of significant protection within the wind farm development spatial framework. In the current proposal, no development is proposed within an area of wild land. However, where a proposed wind farm is situated outwith a wild land area, the effects on wild land may be a relevant consideration.

187. In the course of the inquiry process, the Company provided a detailed wild land review. Comments were invited from all inquiry parties. SNH did not object on the basis of impacts on wild land. The John Muir Trust argued that the combination of the consented Strathy North and proposed Strathy South wind farms would give rise to significant adverse landscape and visual effects and significant adverse effects on wild land.

188. The proposed turbines, together with those proposed at Strathy Wood and those under construction at Strathy North, would be visible from the summits and slopes of Ben Hope, Ben Loyal, Ben Klibreck and Foinaven. These locations are within the Foinaven – Ben Hee (area 37); Ben Hope – Ben Loyal (area 38); and Ben Klibreck-Armie Forest (area 35) wild land areas. There would also be discrete locations within the wild land areas at Causeymire-Knockflin Flows (area 36) and East Halladale Flows (area 39) where the turbines would be visible.

189. Having considered the arguments presented by all parties and the reasoning of the Reporter, Ministers agree with the reasoning and findings of the Reporter in chapter 4 of the Report and adopt his conclusions on wild land in chapter 12 of the Report. The application site is some considerable distance from any wild land areas, with intervening landscape features, meaning that in the limited instances where turbines would be visible they would appear distant and as a small component of the overall landscape. The proposed development would not have any significant adverse impact on these wild land areas.

190. Scottish Ministers received emails from John Muir Trust dated 9 March 2018, 12 March 2018 and a letter dated 3 April 2018. The correspondence post-dated the close of the inquiry for Strathy South and is not reflected in the PLI report. The Trust enclosed reports and visualisations submitted to the conjoined public local inquiry on the proposed Limekiln and Drum Hollistan wind farms.

191. Matters raised by the John Muir Trust regarding wild land and landscape and visual impact including cumulative impact were addressed by the Reporter at the Strathy South PLI. The terms of this correspondence post-dating the Strathy South PLI from John Muir Trust are noted, along with the Reporter's conclusion that the character and qualities of wild land areas would not be adversely affected by the proposed development.

192. Ministers agree with and adopt the Reporter's conclusion that the character and qualities of wild land areas would not be adversely affected by the proposed development.

Impacts on Ecology

193. Objectors expressed concern that the proposed development would pose a significant threat to otter, pine martin, water vole, and wildcat; and that run-off, chemicals and sedimentation would harm salmon, brown trout and eel. However, those in support suggested that any environmental or ecological impact would be minimal.

194. The Reporter concluded the proposed development would likely be beneficial to areas of important plant life following restoration, and that the implementation of mitigation measures and continued monitoring and management of the site and surroundings would ensure no harm to protected species on land or in the River Strathy catchment.

195. Taking account of the environmental statement, addendum and further information report findings, and following the advice of SNH, SEPA and MSS, the Reporter found that there would be no significant impact to protected species. The Company has carried out a significant level of investigation to determine the presence, or otherwise, of species on and around the application site. Ministers agree with the Reporter that the level of pre-construction, construction and post-construction monitoring, and the implementation of mitigation measures, would be satisfactory to safeguard any harm to otter, water vole, pine martin, wild cat, badger, Atlantic salmon, freshwater pearl mussels, and brown trout. Ministers also agree with the Reporter's finding that the monitoring and mitigation measures would ensure no harm to eel if found present in the River Strathy catchment.

196. In summary, having considered the arguments presented by all parties and the reasoning of the Reporter, Ministers agree with the reasoning and findings of the Reporter in chapters 6 and 7 of the Report and conclude the Development would likely be beneficial to areas of important plant life following restoration, and that careful management of the tree felling, construction, post-construction and restoration stages through the implementation of mitigation measures and continued monitoring and management of the site and surroundings would minimise the impact on important plant life and ensure no harm to protected species on land or in the River Strathy catchment.

Impacts on Peat and Forestry

197. The application site, within what is now a U-shaped commercial forestry plantation block surrounded by peatland, has undergone a dramatic transition over the last 30 or so years. The ploughing of peatland and the creation of commercial coniferous forestry has created a very large extent of damaged peatland and modified the site landscape from sweeping moorland to non-native dense woodland and access tracks.

198. Ministers agree with the Reporter that the long-term plans of the Company for forestry removal, peatland restoration and management to restore the area occupied by non-native, commercial forestry presents an opportunity to create a significant net environmental benefit in terms of peatland habitats and landscape. It would bring continuity to the sweeping moorland landscape character area (rather than the distinct contrast and visual interruption given by the existing forestry).

199. Ministers have had regard to the extension of The Flows Nature Reserve (managed by RSPB Scotland) to the southern and eastern wind farm site boundaries and its designation as Forsinard Flows National Nature Reserve, agreed by SNH effective from 30 September 2016.

200. The majority of the peat resource on the application site itself has been highly modified by the processes required to plant and manage evergreen commercial forestry, and Ministers conclude the proposal to progressively restore the application site to active

peatland would be of benefit to the site, the surrounding peatland and the landscape providing a considerable and significant area of restored peatland habitat over a progressive period (0-25 years). Ministers conclude that such peatland and habitat restoration as proposed by the Company would be complementary to the objectives for the management of the adjoining Forsinard Flows National Nature Reserve, and have included a condition which provides the forestry removal and peatland restoration mitigation measures recommended by the Reporter.

201. Having considered the arguments presented by all parties and the reasoning of the Reporter, Ministers agree with the reasoning and findings of the Reporter and adopt his conclusions in relation to peat and forestry, including that:

- The estimated levels of peat extraction would not equate to a significant volume when considered in the context of the site or the wider SAC designation. Extracted peat could be successfully re-instated, moved, stored, maintained and used in restoration. Peat extraction would provide a useful field of research for the Environmental Research Institute in Thurso which could inform practice.
- The use of floating roads would help to minimise peatland impacts and allow areas of peat to “communicate” with hydro-connectivity retained.
- The proposal to restore the application site to active blanket bog is ambitious but achievable (as proven by other projects such as at Forsinard Flows).
- The removal of commercial forestry and restoration of moorland (primarily to blanket bog) would support peatland revival and areas of important plant life and would provide a positive landscape enhancement.

202. Ministers agree with the Reporter’s finding in paragraph 7.150 of the Report and conclude that the peatland restoration which would be brought about by the Development would have a greater benefit than restoration in the absence of the Development, as the Development would proceed without the requirement to pursue government grants or funding streams directed at peatland restoration, leaving the limited amounts of such directed funding available for other projects.

Renewable energy generation and associated policy benefits

203. According to the Scottish Government Renewable Electricity Output Calculator published at <http://www.gov.scot/Topics/Statistics/Browse/Business/Energy/onlinetools/ElecCalc>, a 132.6 MW onshore wind farm (such as the Development) has an estimated annual generation of 295,679 MWh, enough to power the equivalent of 66,222 households in Scotland for a year.

204. Ministers accept SEPA’s advice that the Company has provided satisfactory justification of the assumptions and input data behind its carbon calculation. The estimated payback time ranges from -0.6 to 9.7 years, with the upper maximum reflecting a precautionary approach regarding maximum drainage distance and turbine foundation dimensions. Ministers note SEPA has confirmed that there is sufficient confidence in the expected carbon payback figure of 1.1 years submitted as part of the Further Information Report in November 2014 for it to be used by Scottish Ministers as a material consideration.

205. Having considered the arguments presented by all parties and the reasoning of the Reporter, Ministers agree with the Reporter's reasoning and findings in chapter 8 of the Report and adopt his conclusions in relation to carbon payback and carbon emissions reduction in chapter 12 of the Report. An estimated carbon payback period of 1.1 years would give effect to the carbon saving potential of the development relatively quickly, but even if the most precautionary approach to calculating payback time is employed, a payback time of up to 9.7 years would still allow it to help realise the Scottish Government's ambition to largely decarbonise Scotland's generation mix by 2030.

Economic impact and Renewable Energy Benefits (including Tourism)

206. The Reporter considered the concerns of parties opposed to the development, that:

- Only short-term contracts would arise from the development with little long-term employment for locals.
- There would be a loss of income from climbers, walkers, anglers, hunters, and tourists as a consequence of people being put-off by the development.

207. He also considered the arguments advanced by those in favour, that:

- The proposal would provide secure employment to local people.
- Support would be given to local shops and services from those employed in construction and maintenance of the wind farm.
- The proposed community package would provide social and economic benefits.
- The existing commercial forestry is a private enterprise which has no community benefit.
- The proposal would help to retain people, especially the younger generation, due to employment and support for local shops and facilities.
- The local supply chain would be supported through employment and contracts.

208. Ministers have considered the economic and socio-economic impacts detailed by the Reporter at Chapter 9 of the Report, and note the Company proposes community benefit of £5000 per annum per megawatt of installed capacity and has signed a memorandum of understanding with Melness and Tongue Community Development Trust agreeing to offer up to 10% of the development for community investment and subsequent share in revenue for the lifetime of the project. The Reporter took into account the experiences from the development of the Strathy North Wind Farm, which is comparable in terms of scale, location and developer. His findings were that the proposed development would provide a significant economic investment in the local area, Highland and Scotland. It would support local contractors; provide job opportunities; and support local services, facilities and accommodation providers. In doing so, there would be opportunities to aid in population retention.

209. Having considered the arguments presented by all parties and the reasoning of the Reporter, Ministers agree with the Reporter's reasoning and findings that the proposal is likely to have no significant detrimental impact when viewed from attractions, viewpoints or tourist routes; and that the siting of the wind turbines would have little impact on the attractiveness and attributes of the area. However, while Ministers accept the Reporter's analysis of the opportunities for socio-economic benefits detailed above, Ministers have not attached weight to this when reaching their decision as the community benefit of £5000 per annum is not a material consideration, and the net economic benefit associated with shared ownership the Development might bring to the economic position of the area is insufficiently

certain to attach weight to it. Furthermore, the experience from the development of Strathy North Wind Farm, while a helpful indicator, is not a guarantee that the same local benefits would flow from the development of Strathy South.

The Scottish Ministers' Determination

210. The Scottish Ministers are satisfied that an environmental impact assessment has been carried out, and that the applicable procedures regarding publicity and consultation in respect of the application have been followed.

211. When formulating proposals for the construction of the proposed generating station the Company must comply with paragraph 3 of Schedule 9 to the Electricity Act 1989. Paragraph 3(1)(a) of Schedule 9 requires the Company in formulating such proposals to have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest. Paragraph 3(1)(b) requires the Company to do what it reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects. Under paragraph 3(3) of that Schedule the Company must also avoid, so far as possible, causing injury to fisheries or to the stock of fish in any waters.

212. Under paragraph 3(2) of that Schedule the Scottish Ministers must have regard to the desirability of the matters mentioned in paragraph 3(1)(a) of that Schedule and the extent to which the Company has complied with its duty under paragraph 3(1)(b). Under paragraph 3(3) the Scottish Ministers must avoid, so far as possible, causing injury to fisheries or to the stock of fish in any waters.

213. In considering the application, the Scottish Ministers have had regard to the desirability of the matters mentioned in paragraph 3(1)(a) of Schedule 9 and the extent to which the Company has complied with its duty under paragraph 3(1)(b). Ministers consider that the Company has done what it reasonably can to mitigate the effect of the proposed development on the matters mentioned in paragraph 3(1)(a). Ministers are satisfied that the requirements of paragraph 3 of Schedule 9 are satisfied.

214. Ministers have had regard to the advice of SEPA as required by section 36(5A) of the Electricity Act 1989 and the purposes of Part 1 of the Water Environment and Water Services (Scotland) Act 2003. SEPA has indicated that based on the information available, the Development accords with Water Framework Directive objectives and a CAR licence is capable of being authorised.

215. Ministers have weighed the impacts of the proposed development, and the degree to which these can be mitigated, against the economic and renewable energy benefits which would be realised. Ministers have undertaken this exercise in the context of national and local policies.

216. Ministers have considered the extent to which the development accords with and is supported by Scottish Government policy and the terms of the development plan, and the environmental impacts of the development, in particular: the impact on the Caithness and Sutherland Peatlands SAC, SPA and Ramsar Site; ornithological impacts; the landscape and visual impact of the development; impacts on wild land; impacts on ecology; and; impacts on peat. Ministers have also considered the benefits of removal of forestry in the long term which the development would provide; the estimated contribution made by the development to reducing CO₂ emissions, and; the renewable energy benefits of the development.

217. Ministers are satisfied that many of the environmental issues have been appropriately addressed by way of the design of the proposal and mitigation, and that the issues which remain are, on balance, outweighed by the benefits of the proposal. In particular Ministers are satisfied that the proposal will not adversely affect the integrity of the Caithness and Sutherland Peatlands SPA or the Ramsar site.

218. Ministers have had regard to the requirements of Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds, and Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.

219. In their consideration of the environmental impacts of the Development, Ministers have identified conditions to be attached to the consent to avoid pollution or deterioration of habitats of wild birds in Scotland and secure the preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in Scotland. These include requirements for a Pre-Construction Species Survey and Protection Plan and Protected Bird Species, Vegetation and Tree Felling Monitoring, Surveys and Reporting; a Habitat Management Plan; a Deer Management Plan to provide long term management of deer using the wind farm site to safeguard adjacent areas of the SAC; a Construction and Environmental Management Document (CEMD) comprised of Construction and Environmental Management Plans (CEMPs) including a Wetland Ecosystems Survey and Mitigation Plan, a Pollution Prevention Plan, and post-construction restoration and reinstatement of the working areas not required during the operation of the Development.

220. A condition has also been identified containing requirements for the appointment of an Ecological Clerk of Works (ECoW) to monitor compliance with all environmental and nature conservation mitigation works and working practices approved by deemed planning permission, the CEMD, all CEMPs, the Pre-Construction Species Survey and Protection Plan and the Habitat Management Plan. The ECoW appointed will have powers to order a stop to any activity on site which in his or her reasonable opinion could lead to an incidence of non-compliance with the environmental and ecological conditions or a breach of environmental law.

221. Ministers are satisfied that with the adoption of conditions to mitigate the impacts of the Development including those indicated in paragraphs 219 and 220 above and described more fully in Annex 2, the grant of consent would be consistent with their duties under regulations 3 and 3A of the Conservation (Natural Habitats & c.) Regulations 1994 (as amended).

222. Other than the extent referred to in paragraph 209 regarding the economic benefits of shared ownership, and their decision referred to in paragraph 97 that a Private Water Supply Protection Plan should be required to safeguard private water supplies, Ministers agree with the Report and adopt its reasoning, findings, and conclusions for the purposes of their decision.

223. Scottish Ministers are satisfied, having regard to current knowledge and methods of assessment, that this reasoned conclusion is still up to date.

224. There is the potential for significant adverse effects on ecology and on the Caithness and Sutherland Peatlands SPA and Ramsar site, unless the mitigation measures proposed in the Strathy South Wind Farm Environmental Statement volumes 1 to 4 dated June 2007 published by Scottish and Southern Energy plc at 4.9.2, 4.9.3, 10.6.1.(b), 10.7, Appendix 4.1; in the Strathy South Wind Farm Further Information Report (T39 Layout) dated 12 November

2014 published by Environ at Appendix TA04.01 are undertaken; and unless the Micro-Siting controlled by condition 17, the Construction and Environmental Management Document required by condition 18, the Ecological Clerk of Works required by condition 19, the Pre-Construction Species Survey and Protection Plan and Protected Bird Species, Vegetation and Tree Felling Monitoring, Surveys and Reporting required by condition 20, the Peat Stability Plan required by condition 22, the Habitat Management Plan required by condition 23, and the Deer Management Plan required by condition 24 are implemented.

225. Subject to the conditions set out in **Part 1 of Annex 2**, Scottish Ministers **grant consent** under section 36 of the Electricity Act 1989 for the construction and operation of the Strathy South wind-powered electricity generating station (as described in Annex 1).

226. Subject to the conditions set out in **Part 2 of Annex 2**, Scottish Ministers direct under section 57(2) of the Town and Country Planning (Scotland) Act 1997 that **planning permission is deemed to be granted** for the proposed development described in Annex 1.

227. The Scottish Ministers direct that section 58(1) of the Town and Country Planning (Scotland) Act 1997 is not to apply and that planning permission is to lapse on the expiry of a period of 5 years from the date of this letter unless the development is begun before the expiry of that period.

228. In accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, the Company must publicise notice of this determination and how a copy of this decision letter may be inspected on the application website, in the Edinburgh Gazette and a newspaper circulating in the locality in which the land to which the application relates is situated.

229. Copies of this letter have been sent to the public bodies consulted on the application including the planning authority, SNH, SEPA and Historic Environment Scotland. This letter has also been published on the Scottish Government Energy Consents website at <http://www.energyconsents.scot>.

230. The Scottish Ministers' decision is final, subject to the right of any aggrieved person to apply to the Court of Session for judicial review. Judicial review is the mechanism by which the Court of Session supervises the exercise of administrative functions, including how the Scottish Ministers exercise their statutory function to determine applications for consent. The rules relating to the judicial review process can be found on the website of the Scottish Courts – <http://www.scotcourts.gov.uk/rules-and-practice/rules-of-court/court-of-session-rules>. Your local Citizens' Advice Bureau or your solicitor will be able to advise you about the applicable procedures.

Yours sincerely

REDACTED

Sue Kearns

Deputy Director Consumers and Low Carbon
A member of the staff of the Scottish Ministers

ANNEX 1 – DESCRIPTION OF THE DEVELOPMENT

A wind powered electricity generating station with generating capacity in excess of 50 megawatts, situated on the site with Central Grid Reference 280600, 953000, being approximately 15 kilometres south of Strathy village and 35 kilometres south-west of the settlement of Thurso, as indicated on Figure A4.1 of the addendum to the Environmental Statement entitled “Strathy South Wind Farm Environmental Statement Addendum – July 2013” dated July 2013 published by SSE Renewables Developments (UK) Ltd; **excluding turbines 51, 55, 62, 63, 68, 73, 74, 76; excluding the anemometry mast to the north west of the site**; with turbine layout as detailed in Figure 1.2 of the further information report entitled ‘Strathy South Wind Farm Further Information Report (T39 Layout)’ dated 12 November 2014 published by Environ, and including;

- 39 wind turbines, with a hub height of 83 metres, maximum tip height of 135 metres, and maximum rotor diameter of 104 metres
- use of 3.4 megawatt turbines
- reinforced concrete foundations for each turbine, of maximum 20 metres diameter and maximum 3 metres depth (5.734 to 4.758 hectares of permanent land take)
- access from the A836 public road via the access to the Strathy North Wind Farm
- 32 kilometres of access tracks
- 15 stream crossings
- a single switching station
- 3 anemometry masts not exceeding 90 metres in height
- cabling trenches extending to 42 kilometres in length
- 4 borrow pits
- 1 site compound; 1 lay down area; 1 crane pad for each turbine
- a 100 metre by 100 metre concrete batching plant;

All as more particularly shown on plans reference Figure A4.1 and Figure 1.2 (“the approved plans”) appended to this decision letter and all as specified in the Application submitted by SSE GENERATION LIMITED, incorporated under the Companies Acts (Registered Number 02310571) and having its registered office at 55 Vastern Road, Reading, Berkshire, RG1 8BU (“the Developer”) and supporting environmental information, which comprises the Environmental Statement entitled ‘Strathy South Wind Farm Environmental Statement’ volumes 1 to 4 dated June 2007 published by Scottish and Southern Energy plc; as amended by the addendum entitled ‘Strathy South Wind Farm Environmental Statement Addendum – July 2013’ volumes A1 to A4 dated July 2013 published by SSE Renewables Developments (UK) Ltd, and the further information report entitled ‘Strathy South Wind Farm Further Information Report (T39 Layout)’ dated 12 November 2014 published by Environ including Appendices TA01.01, TA04.01 and TA05.01 as revised on 28 November 2014 and annotated as ‘Issue 2’.

ANNEX 2

Interpretation of Annex 2

<i>Commencement of the Development</i>	<i>Means the initiation of the Development (or part thereof) by the carrying out of a material operation within the meaning of section 27(4) of the Town and Country Planning (Scotland) Act 1997.</i>
<i>The Company</i>	<i>Means SSE Generation Limited, a company incorporated under the Companies Acts (Company Number 02310571) and having its registered office at 55 Vastern Road, Reading RG1 8BU</i>
<i>Date of Final Commissioning</i>	<i>Means the date on which electricity is exported to the grid on a commercial basis from the last of the wind turbines forming part of the Development erected in accordance with this consent and deemed planning permission</i>
<i>Date of First Commissioning</i>	<i>Means the date when electricity is first exported from any of the approved wind turbines to the electricity grid network, excluding any generation exported for testing purposes</i>
<i>The Developer</i>	<i>Means the Company and in substitution therefor any other party who at the time has the benefit of this section 36 consent</i>
<i>Development</i>	<i>Means the development to which this consent and deemed planning permission relates, all as more particularly described at Annex 1</i>
<i>Environmental Statement and Supporting Environmental Information</i>	<i>Means the Environmental Statement entitled 'Strathy South Wind Farm Environmental Statement' volumes 1 to 4 dated June 2007 published by Scottish and Southern Energy plc; as amended by the addendum entitled 'Strathy South Wind Farm Environmental Statement Addendum – July 2013' volumes A1 to A4 dated July 2013 published by SSE Renewables Developments (UK) Ltd, and the further information report entitled 'Strathy South Wind Farm Further Information Report (T39 Layout)' dated 12 November 2014 published by Environ including Appendices TA01.01, TA04.01 and TA05.01 as revised on 28 November 2014</i>

PART 1

The consent granted in accordance with Section 36 of the Electricity Act 1989 and direction that planning permission be deemed to be granted under section 57 of the Town and Country Planning (Scotland) Act 1997 are subject to the following conditions:

Conditions Attached to Section 36 Consent	
1.	<p>Duration of the Consent</p> <p>The consent is for a period from the date of this consent decision letter until the date occurring 25 years after the date of First Commissioning.</p> <p>Written confirmation of the Date of First Commissioning shall be provided to the planning authority and Scottish Ministers no later than one calendar month after that date.</p> <p><i>Reason: To define the duration of the consent.</i></p>
2.	<p>Commencement of Development</p> <p>The Commencement of the Development shall be no later than five years from the date of this consent, or in substitution such other period as the Scottish Ministers may hereafter direct in writing. Written confirmation of the intended date of Commencement of Development shall be provided to the planning authority and Scottish Ministers no later than one calendar month before that date.</p> <p><i>Reason: To ensure that the consent is implemented within a reasonable period.</i></p>
3.	<p>Non-assignment</p> <p>The Developer shall not be permitted to assign this consent without the prior written authorisation of the Scottish Ministers. The Scottish Ministers may authorise the assignment of the consent or refuse consent to assignment as they may, in their own discretion, see fit. The consent shall not be capable of being assigned, alienated or transferred otherwise than in accordance with the foregoing procedure. The Developer shall notify the planning authority in writing of the name of the assignee, principal named contact and contact details within 14 days of written confirmation from the Scottish Ministers of an assignment having been granted.</p> <p><i>Reason: To safeguard the obligations of the consent if transferred to another company.</i></p>
4.	<p>Serious Incident Reporting</p> <p>In the event of any breach of health and safety or environmental obligations relating to the Development during the period of this consent, the Developer will provide written notification of the nature and timing of the incident to the Scottish Ministers, including confirmation of remedial measures taken and/ or to be taken to rectify the breach, within 24 hours of the Developer becoming aware of the incident.</p> <p><i>Reason: To keep the Scottish Ministers informed of any such incidents which may be in the public interest.</i></p>

PART 2

Conditions Attached to Deemed Planning Permission	
1.	<p>Duration of the Consent</p> <p>Upon the expiration of a period of 25 years from the Date of First Commissioning, the wind turbines shall be decommissioned and removed from the site, with decommissioning and restoration works undertaken in accordance with the terms of condition 3 of this permission. Written confirmation of the Date of First Commissioning shall be submitted in writing to the planning authority no later than one calendar month after the Date of First Commissioning.</p> <p><i>Reason: To define the duration of the consent. The 30 year cessation date allows for a 5 year period to complete decommissioning and site restoration work.</i></p>
2.	<p>Planning Authority Consultant</p> <p>No development shall commence until the planning authority has approved in writing the terms of appointment of an independent and suitably qualified consultant to assist in the monitoring of compliance with conditions attached to this deemed planning permission during the period from Commencement of Development to the Date of Final Commissioning.</p> <p><i>Reason: to enable the Development to be suitably monitored during the construction phase to ensure compliance with the permission issued.</i></p>
3.	<p>Decommissioning and Restoration Plan</p> <p>No development (excluding keyhole felling and preliminary ground investigation which shall be permitted) shall commence until an Interim Decommissioning and Restoration Plan (IDRP) for the site has been submitted to and approved in writing by the planning authority in consultation with SNH and SEPA.</p> <p>Thereafter:</p> <ol style="list-style-type: none"> i. Not later than 3 years prior to the decommissioning of the Development or the expiration of the section 36 consent (whichever is the earlier), the IDRP shall be reviewed by the Developer to ensure that the IDRP reflects best practice in decommissioning prevailing at the time and ensures that site specific conditions identified during construction of the site and subsequent operation and monitoring of the Development are given due consideration. A copy shall be submitted to the planning authority for their written approval, in consultation with SNH and SEPA. ii. Not later than 12 months prior to the decommissioning of the Development, a detailed Decommissioning and Restoration Plan (DRP), based upon the principles of the approved IDRP, shall be submitted to and approved in writing by the planning authority in consultation with SNH and SEPA. <p>Unless otherwise agreed in advance in writing with the planning authority, the IDRP and subsequent DRP shall outline measures for the decommissioning of the Development, restoration and aftercare of the site in accordance with commitments contained in the information lodged in support of the application for this consent and deemed planning permission, prevailing legislative requirements and published best practice prevailing at the time. The IDRP and DRP shall include details about the removal of all elements of the Development, relevant access tracks and all cabling, including where necessary details of (a) justification for retention of any relevant elements of the Development; (b) the treatment of disturbed ground surfaces; (c) management and timing of the works; (d) environmental management provisions; and (e) a traffic management plan to address any traffic impact issues during the decommissioning period. Where infrastructure is removed, provision shall be made for drainage reinstatement to achieve</p>

	<p>in perpetuity natural drainage patterns consistent with the delivery of the Habitat Management Plan.</p> <p>The DRP shall be implemented as approved, unless otherwise agreed in writing with the planning authority in consultation with SNH and SEPA. In the event that the DRP is not approved by the planning authority in advance of the decommissioning of the Development, then unless otherwise agreed in writing by the planning authority, the Interim IDRP shall be implemented in full.</p> <p><i>Reason: To ensure the decommissioning and removal of the Development in an appropriate and environmentally acceptable manner and the restoration and aftercare of the site, in the interests of safety, amenity and environmental protection.</i></p>
4.	<p>Financial Guarantee</p> <p>No development shall commence until a legal agreement is in place securing delivery by the Developer of a financial guarantee in favour of the planning authority to secure the proper decommissioning of the wind farm and site reinstatement as set out within the approved Interim Decommissioning and Restoration Plan (IDRP) required under Condition 3 above.</p> <p>The agreement shall include:</p> <ol style="list-style-type: none"> i. The maximum sum determined by a suitably qualified independent professional as being required to decommission the Development in line with the IDRP. The value of the financial guarantee shall be reviewed by a suitably qualified independent professional at intervals of not less than five years. The financial guarantee shall be increased or decreased to take account of any variation in costs of compliance with restoration and aftercare obligations and best practice prevailing at the time of each review. ii. Details of the financial guarantee in terms acceptable to the planning authority, which can either be by way of a (i) restoration bond; (ii) letter of credit (or such other suitable financial instrument with a reputable financial institution); (iii) restoration fund, or (iv) any combination of (i) (ii) and (iii) reflecting the maximum sum required to decommission the site in line with the IDRP. iii. Details of provisions related to continuing liability on assignment of the section 36 consent to another person in accordance with condition 3 attached to the section 36 consent. iv. Details of procedure in relation to resolution of disputes. <p>The financial guarantee shall thereafter be maintained in favour of the planning authority until the date of completion of all restoration and aftercare obligations.</p> <p><i>Reason: to ensure the necessary finances are secured to guarantee site restoration.</i></p>
5.	<p>Electricity Supply</p> <p>5.1 The Developer shall, at all times after the Date of First Commissioning, record information regarding the monthly supply of electricity to the national grid from each turbine within the Development and retain the information for a period of at least 24 months. The information shall be made available to the planning authority within one month of any request by them. In the event that:</p> <ol style="list-style-type: none"> i. Any wind turbine installed and commissioned fails to supply electricity on a commercial basis to the grid for a continuous period of 6 months, the wind turbine in question shall be deemed to have ceased to be required. Thereafter, if the planning authority so direct in writing the wind turbine, along with any ancillary equipment, fixtures and fittings not required in connection with retained turbines, shall, within 3 months of the end of the said continuous 6 month period, be dismantled and removed from the site and the surrounding land fully reinstated in accordance with this condition.

	<p>ii. The wind farm fails to supply electricity on a commercial basis to the grid from 50% or more of the wind turbines installed and commissioned and for a continuous period of 12 months from the date on which it stopped supplying energy, then the Developer must notify the planning authority in writing immediately. Thereafter, if the planning authority so direct in writing the wind farm shall be decommissioned and the application site reinstated in accordance with this condition.</p> <p>5.2 Paragraph 5.1(i) and 5.1(ii) shall not apply if such outages are out with the Developer's control or as a consequence of any emergency or requirement of National Grid. In these instances the planning authority shall be informed of the turbine shut downs, reasons for the turbine shut downs and timescales for the outages within 5 working days of the turbines being switched off.</p> <p>5.3 All decommissioning and reinstatement work required by this condition shall be carried out in accordance with the approved Decommissioning and Restoration Plan (DRP) or, should the DRP not have been approved at that stage, other decommissioning and reinstatement measures, based upon the principles of the Interim Decommissioning and Restoration Plan (IDRP), as may be approved in writing by the planning authority.</p> <p><i>Reason: to ensure that any redundant or non-functional wind turbines removed from site, in the interests of safety, amenity and environmental protection.</i></p>
6.	<p>Wind Turbine Details</p> <p>6.1 No development shall commence until full details of the proposed wind turbines have been submitted to and approved in writing by the planning authority. These details shall include:</p> <ul style="list-style-type: none"> i. The make, model, design, size, power rating and sound power levels of the turbines to be used. The turbines shall be consistent with the candidate turbine or range assessed in the environmental statement. ii. The external colour and finish of the turbines to be used (including towers, nacelles and blades) which should be non-reflective pale grey semi-matt. <p>6.2 Thereafter, development shall progress in accordance with these approved details and, with reference to paragraph ii of condition 6.1 above, the turbines shall be maintained in the approved colour, free from external rust, staining or discolouration, until such time as the wind farm is decommissioned. All wind turbine blades shall rotate in the same direction.</p> <p><i>Reason: to ensure that the turbines chosen are suitable in terms of visual, landscape, noise and environmental impact considerations.</i></p>
7.	<p>Wind Turbine Transformers</p> <p>All of the wind turbine transformers shall be located within the tower of the wind turbine to which they relate.</p> <p><i>Reason: to ensure ancillary elements of the Development are only permissible if, following additional design and LVIA work, they are demonstrated to be acceptable in terms of visual, landscape and other environmental impact considerations.</i></p>
8.	<p>Buildings and Other Facilities</p> <p>No development shall commence until full details of the location, layout, external appearance, dimensions and surface materials of all control, sub-station and other buildings, welfare facilities, compounds and parking areas, as well as any fencing, walls, paths and any other ancillary elements of the Development, including any proposed screening, have been submitted to and approved in writing by the planning authority, in consultation with SEPA and SNH. Thereafter, development shall progress</p>

	<p>in accordance with the approved details.</p> <p><i>Reason: to ensure that all ancillary elements of the Development are acceptable in terms of visual, landscape and environmental impact considerations.</i></p>
9.	<p>No Advertisements</p> <p>Unless there is a demonstrable regulatory, statutory, health and safety or operational reason, none of the wind turbines, anemometers, power performance masts, switching stations or transformer buildings/enclosures, ancillary buildings or above ground fixed plant shall display any name, logo, sign or other advertisement without express consent having been granted by the planning authority.</p> <p><i>Reason: to ensure that the turbines are not used for advertising, in the interests of visual amenity.</i></p>
10.	<p>Aviation Lighting and Information</p> <p>10.1 No development shall commence until a scheme of aviation lighting is submitted to, and approved in writing by the planning authority after consultation with the Ministry of Defence. Thereafter the approved scheme of aviation lighting shall be fully implemented on site, unless otherwise approved in writing by the planning authority in consultation with the Ministry of Defence.</p> <p>10.2 The Developer shall provide both the Ministry of Defence and the Defence Geographic Centre (AIS Information Centre) with a statement, copied to the planning authority and Highland and Islands Airports Limited, containing the following information:</p> <ul style="list-style-type: none"> i. The date of commencement of the Development. ii. The exact position of the wind turbine towers in latitude and longitude. iii. A description of all structures over 300 feet high. iv. The maximum extension height of all construction equipment. v. The height above ground level of the tallest structure. vi. Detail of an infra-red aviation lighting scheme as agreed with aviation interests and the planning authority to include: <ul style="list-style-type: none"> (a) turbines at the cardinal points should be fitted with 25 candela omni-directional red lighting and infra-red lighting with an optimised flash pattern of 60 flashes per minute of 200ms to 500ms duration at the highest practicable point; and (b) remaining perimeter turbines should be fitted with infra-red lighting with an optimised flash pattern of 60 flashes per minute of 200ms to 500ms duration at the highest practicable point. <p><i>Reason: to ensure that the erected turbines present no air safety risk and in a manner that is acceptable to local visual impact considerations.</i></p>
11.	<p>Community Liaison Group</p> <p>No development shall commence until a community liaison group is established by the Developer, in collaboration with the planning authority and local Community Councils to act as a vehicle for the community to be kept informed of project progress and, in particular, should allow advanced dialogue on the provision of all transport-related mitigation measures and to keep under review the timing of the delivery of turbine components. This should also ensure that local events and tourist seasons are considered and appropriate measures to co-ordinate deliveries and work with these and any other major projects in the area to ensure no conflict between construction traffic and the increased traffic generated by such events / seasons / developments. The liaison group, or element of any combined liaison group relating to the Development, shall be maintained until the wind farm has been completed and is fully operational.</p>

	<i>Reason: to assist with the provision of mitigation measures to minimise the potential hazard to road users, including pedestrians travelling on the road networks.</i>
12.	<p>Abnormal Loads</p> <p>Prior to commencement of deliveries to site, the proposed route for any abnormal loads on the trunk road / local network must be approved by the relevant roads authority. Any accommodation measures required including the removal of street furniture, junction widening, traffic management must similarly be approved. Abnormal load movements shall thereafter be undertaken in accordance with the approved details.</p> <p><i>Reason: to minimise interference and maintain the safety and free flow of traffic on the trunk / local road network as a result of the traffic moving to and from the Development.</i></p>
13.	<p>Turbine Delivery</p> <p>During the delivery period of the wind turbine construction materials any additional signing or temporary traffic control measures deemed necessary due to the size or length of any loads being delivered or removed must be undertaken by a recognised traffic management consultant, to be approved by Transport Scotland / the planning authority before delivery commences.</p> <p><i>Reason: to ensure that the transportation will not have any detrimental effect on the road and structures along the route.</i></p>
14.	<p>Traffic Impact Plan</p> <p>No development shall commence until a traffic management plan has been submitted to and approved in writing by the planning authority. The traffic management plan shall include:</p> <ol style="list-style-type: none"> The routing of all traffic associated with the Development on the local road network; Measures to ensure that the specified routes are adhered to, including monitoring procedures; Details of all signage and lining arrangements to be put in place; Provisions for emergency vehicle access; Identification of a nominated person to whom any road safety issues can be referred; and A plan for access by vehicles carrying abnormal loads, including the number and timing of deliveries, the length, width and axle configuration of all extraordinary traffic accessing the site. <p>Where departures are proposed from the approved traffic impact assessment, these must be supported with an agreed pre-construction survey assessment and appropriate mitigation to safeguard the integrity of the local road network including if necessary an agreement under Section 96 of the Roads (Scotland) Act 1984.</p> <p>The approved traffic management plan shall thereafter be implemented in full, unless otherwise agreed in advance in writing with the planning authority.</p> <p><i>Reason: to ensure that all construction traffic will have no detrimental effect on the road and structures to be used within the construction of the Development.</i></p>
15.	<p>Access Management Plan</p> <p>15.1 No development shall commence until a detailed Outdoor Access Plan of public access across the site (as existing, during construction and following completion) has been submitted to, and approved in writing by, the planning authority.</p> <p>15.2 The Outdoor Access Plan shall include details showing:</p> <ol style="list-style-type: none"> All existing access points, paths, core paths, tracks, rights of way and other

	<p>routes (whether on land or inland water), and any areas currently outwith or excluded from statutory access rights under Part One of the Land Reform (Scotland) Act 2003, within and adjacent to the application site.</p> <ul style="list-style-type: none"> ii. Any areas proposed for exclusion from statutory access rights, for reasons of privacy, disturbance or effect on curtilage related to buildings or structures. iii. All proposed paths, tracks and other alternative routes for use by walkers, riders, cyclists, canoeists, all-abilities users, etc. and any other relevant outdoor access enhancement (including construction specifications, signage, information leaflets, proposals for on-going maintenance etc.). iv. Any diversion of paths, tracks or other routes (whether on land or inland water), temporary or permanent, proposed as part of the Development (including details of mitigation measures, diversion works, duration and signage). <p>15.3 The approved Outdoor Access Plan, and any associated works, shall be implemented in full prior to the commencement of development or as otherwise may be agreed within the approved plan.</p> <p><i>Reason: In order to safeguard public access during the construction, operation and restoration phases of the Development.</i></p>
16.	<p>Main Access Route</p> <p>No development shall commence unless information on the location, design and construction methodology of passing places on the section of the main access route which is located within the boundary of the Caithness and Sutherland Peatlands Special Area of Conservation has been submitted to and approved in writing by the planning authority in consultation with SNH. The approved details shall thereafter be implemented in full.</p> <p><i>Reason: to ensure the required road related mitigation does not have a significantly adverse impact on the Caithness and Sutherland Peatlands SAC.</i></p>
17.	<p>Micro-siting</p> <p>17.1 Where ground conditions require it, wind turbines, masts, trenches, areas of hard standing and tracks (“Site Infrastructure”) within the application site boundary of the Development may, subject to the following restrictions, be ‘micro-sited’ by the Developer within the application site boundary of the Development to locations other than the precise locations shown on Figure 1.2 of the approved plans.</p> <p>17.2 Subject to condition 17.4 any proposed micro-siting of Site Infrastructure is subject to the following restrictions:</p> <ul style="list-style-type: none"> i. No wind turbine foundation shall be positioned higher, when measured in metres Above Ordinance Datum (Newlyn), than the height shown on the approved plans. ii. No Site Infrastructure may be relocated: <ul style="list-style-type: none"> (a) More than 50 metres from the position of each relevant item of Site Infrastructure delineated on the approved plans. (b) So as to be located within 250 metres (for turbine/mast foundations) or 150 metres (for hardstanding, tracks or trenches) of ground water dependent terrestrial ecosystems. (c) To a position within 50 metres of any watercourse or, where it outlines a lesser distance, to a position within a watercourse buffer zone identified within the Environmental Statement and/or the approved plans. (d) To a position within an area identified within the Environmental Statement and/or the approved plans as having greater adverse effect in relation to the following: gradient constraint; deep peat (that is peat with a depth of 0.5 metres or greater); peat landslide hazard risk or the qualifying features of the Caithness and Sutherland Peatlands SPA/SAC. iii. No boundaries of roads, access paths and tracks within the boundary of the

	<p>Caithness and Sutherland Peatlands Special Area of Conservation, may be moved from positions shown on the approved plans.</p> <p>17.3 All micro-siting permissible under this condition without requiring the approval of the planning authority must be approved in writing and in advance by the Environmental Clerk of Works (“ECoW”). A written record must be kept by the Developer of any such ECoW approval and shall be maintained for a period extending to no less than four years following the Date of First Commissioning.</p> <p>17.4 Any relocation of Site Infrastructure beyond 50 metres of the position shown on the approved plans shall be submitted to and approved in writing by the planning authority in consultation with SNH and SEPA. In making such a request for relocation beyond the 50 metres of the position shown on the approved plans under this condition, the Developer must submit the following supporting information:</p> <ol style="list-style-type: none"> i. A plan showing the proposed location of the micro-sited item/installation(s) relative to the original location(s) in the approved plans. ii. Detailed reasoning for the proposed micro-siting of the proposed micro-sited item/installation(s). iii. An assessment of the landscape and visual impact and any adverse impact on any Wild Land Area of the proposed micro-sited item/installation(s). iv. Such other information as may be required by the planning authority. <p>17.5 Prior to the Date of First Commissioning, the Developer must submit updated site plans to the planning authority showing the final position of all Site Infrastructure, buildings, transmission lines, anemometer masts and other constructed items within the application site boundary. These updated plans must identify all instances where micro-siting has taken place from the positions identified in the approved plans and, for each such instance, be accompanied by copies of the written ECoW or planning authority's approval to such micro-siting, as applicable.</p> <p><i>Reason: to enable appropriate micro-siting within the site to enable the Developer to respond to site-specific ground conditions, while enabling the planning authority to retain effective control over any changes to layout that may have ramifications for the environment and/or landscape and visual impact.</i></p>
18.	<p>Construction and Environmental Management Document</p> <p>18.1 No development shall commence until a Construction and Environmental Management Document (CEMD) is submitted to and agreed in writing by the planning authority in consultation with SNH and SEPA. The CEMD shall include but not be limited to:</p> <ol style="list-style-type: none"> (a) An updated Schedule of Mitigation (SM) including mitigation proposed in support of the application and supported by statutory agencies and other agreed mitigation as set out within conditions. These may include matters which extend well beyond the construction phase of the project and the application site. (b) Processes to control/action changes from the SM. (c) Full details of the approved location, layout, dimensions, surface materials, type and construction methodologies of all internal access tracks within the application site boundary. (d) The following specific Construction and Environmental Management Plans (CEMPs): <ol style="list-style-type: none"> i. Peat Management Plan – to include details of all proposed peat stripping, excavation, storage, reinstatement or restoration of material in accordance with best practice advice published by SEPA and SNH. This should for example highlight how sensitive peat areas are to be marked out on-site to prevent any vehicle or work practices causing inadvertent damage and should detail measures to minimise peat wastage and maximise peat restoration on site to preserve, maintain and re-establish peatland habitat. ii. Wetland Ecosystems Survey and Mitigation Plan. iii. Water Management Plan – highlighting proposed drainage provisions

including monitoring/ maintenance regimes, deployment of water-crossings using bottomless culverts, surface water drainage management (SUDs), sizing of watercourse crossings not to result in increased flood risk to people or property and development buffers from watercourses (50 metres), water features (20 metres) and identified groundwater dependent terrestrial ecosystems.

- iv. Pollution Prevention Plan.
- v. Private Water Supply Protection Plan – including, but not limited to, details of mitigation measures to protect the private water supplies identified in the Environmental Statement entitled ‘Strathy South Wind Farm Environmental Statement’ volumes 1 to 4 dated June 2007 published by Scottish and Southern Energy plc; drawings or plans showing the location of the private water supplies in relation to the Development and what mitigation is proposed.
- vi. Site Waste Management Plan – including, but not limited to, quantification, nature, proposed uses, location of proposed uses and management of all material extracted from forest or other tracks or other infrastructure to be restored during or following the construction phase.
- vii. Soil Storage and Management and Spoil Heap Plan – to include plans for the removal, storage, re use and removal of soil and spoil prior to, during and on conclusion of construction.
- viii. Working methods for cable laying.
- ix. Construction Noise Mitigation Plan.
- x. Restored Ground Preservation Plan - to include measures to minimise damage by grazing animals, including deer, to restored and reinstated ground.
- xi. Woodland Plan highlighting the extent and type of felling works to be undertaken. This plan should seek to maximise extraction of timber. Management shall be in accordance with best practice as set out in "Management of Forestry Waste" (SEPA Guidance WST-G-027) and joint-agency "Use of trees to facilitate development on afforested land" (SEPA Guidance LUPS-GU27)".
- xii. Details of any other methods of monitoring, auditing, reporting and communication of environmental management on site and with the Developer, planning authority and other relevant parties.
- xiii. Statement of any additional persons responsible for ‘stopping the job /activity’ if in actual or potential breach of a mitigation or legislation occurs.
- xiv. Details of proposed post-construction restoration/reinstatement of the working areas not required during the operation of the Development, including, construction access tracks, borrow pits, construction compound and other temporary construction areas and, where infrastructure is removed, provision for drainage reinstatement to achieve in perpetuity natural drainage patterns consistent with the delivery of the Habitat Management Plan. Wherever possible reinstatement is to be achieved by the careful use of turfs removed prior to construction works. Details should include all seed mixes to be used for the reinstatement of vegetation.

18.2 In implementing the Peat Management Plan the Developer shall comply in full with "Developments on Peatland: Guidance on the assessment of peat volumes, reuse of excavated peat and the minimisation of waste" published by SEPA and Scottish Renewables (version 1, January 2012) or any amending, substitute or replacement guidance.

18.3 All elements of the CEMD shall be devised and drawn up to co-ordinate and be consistent with the approved Habitat Management Plan.

18.4 Unless otherwise agreed in writing in advance by the planning authority, following consultation with SNH and SEPA, the Development shall proceed in accordance with the CEMD, CEMPs and SM.

Reason: to ensure that all construction operations are carried out in a manner that minimises their impact on road safety, amenity and the environment; to ensure that all extracted peat is extracted, stored, reinstated or restored in a manner which minimises waste and maximises peat restoration on site and that the mitigation measures

	<i>contained in the Environmental Statement accompanying the application, or as otherwise agreed, are fully implemented.</i>
19.	<p>Ecological Clerk of Works</p> <p>19.1 No development shall commence until the planning authority has approved the terms of appointment and the identity of the proposed appointee by and at the cost of the Developer of an independent and suitably qualified ECoW with roles and responsibilities which shall include but not necessarily be limited to:</p> <ul style="list-style-type: none"> • Providing training to the Developer and contractors on their responsibilities to ensure that work is carried out in strict accordance with environmental protection requirements required by this deemed consent and by law. • Monitoring compliance with all environmental and nature conservation mitigation works and working practices approved under this deemed planning permission, the CEMD, all CEMPs, the Pre-Construction Species Survey and Protection Plan and Habitat Management Plan. • Advising the Developer on adequate protection for environmental and nature conservation interests within, and adjacent to, the application site. • Liaising with and providing information to the Habitat Management Plan Steering Group (established in accordance with condition 23). • Consideration of proposals made by the Developer for review of the Habitat Management Plan and reporting to the planning authority and SNH on such proposals. • Consideration of all reporting by the Developer required in terms of this deemed consent during construction, including ornithological and vegetation reporting and tree felling and reporting to the planning authority and SNH on such reporting. • Directing the placement of Site Infrastructure (including written approval of any micro-siting, as permitted by the terms of this deemed consent) and the avoidance of sensitive features. • Regularly reporting to the planning authority, SNH and SEPA on all of the matters falling within his or her roles and responsibilities and making urgent reports to the planning authority, SNH and SEPA as may from time to time be appropriate. <p>19.2 The EcoW shall be appointed on the approved terms throughout the period from Commencement of Development, throughout any period of construction activity and during any period of post construction restoration works.</p> <p>19.3 In the event that for whatever reason a replacement ECoW shall require to be appointed the Developer shall immediately advise the planning authority in writing that such is the case and shall as soon as reasonably practicable advise the planning authority in writing of the identity of the proposed replacement appointee by and at the cost of the Developer of an independent and suitably qualified ECoW and the terms of his or her proposed appointment for the approval of the planning authority.</p> <p>19.4 Under the terms of his or her appointment, the ECoW shall be given powers to order a stop to any activity on site which in his or her reasonable opinion could lead to an incidence of non-compliance with the environmental and ecological conditions in this deemed planning permission or a breach of environmental law and such activity shall forthwith stop.</p> <p>19.5 Under the terms of his or her appointment the ECoW is to report all such stoppages to the Developer's nominated construction project manager and the planning authority without delay and the activity shall not re-commence unless and until the ECoW has confirmed in writing that he or she is satisfied that such measures as are required have been taken to ensure that the relevant incidence of non-compliance with the environmental and ecological conditions in this deemed planning permission or a breach of environmental law shall not re-occur. Any such stoppages which result in a cessation of any construction activity in excess of five working days shall be reported, with full particulars of the works and reasons for stoppage, in writing to the planning authority, SNH and SEPA within ten working days of the cessation of the relevant</p>

	<p>works.</p> <p><i>Reason: to protect the environment from the construction and operation of the Development and secure final detailed information on the delivery of all on-site mitigation projects.</i></p>
20.	<p>Pre-Construction Species Survey and Protection Plan and Protected Bird Species, Vegetation and Tree Felling Monitoring, Surveys and Reporting</p> <p>20.1 No development shall commence until a Pre-Construction Species Survey and Protection Plan (PCP) is submitted to and approved in writing by the planning authority (in consultation with SNH) outlining details of pre-construction surveys for legally protected species to be carried out at an appropriate time of year for the species, in the 8 months preceding commencement of construction, and a watching brief to be implemented by the ECoW during construction. The species that should be surveyed for include, but are not limited to, otter, water vole, pine marten and breeding birds. The area that is surveyed should include all areas directly affected by construction plus an appropriate buffer to identify any species within disturbance distance of construction activity and to allow for any micro-siting needs.</p> <p>20.2 The ECoW should be involved in drafting and should approve any species protection plans that are required, using the information from the Environmental Statement and Supporting Environmental Information and such pre-construction surveys.</p> <p>20.3 The Developer shall ensure that the ECoW shall oversee implementation by the Developer of the species protection plans and any licensing requirements.</p> <p>20.4 Ornithological monitoring and surveys of all protected bird species identified in the Environmental Statement and Supporting Environmental Information as being present on and around the application site shall be carried out and reported by the Developer to the ECoW and planning authority by the end of each calendar year during the construction phase of the Development.</p> <p>20.5 During the operational phase of the Development, bird surveys of all protected bird species identified in the Environmental Statement and Supporting Environmental Information as being present on and around the application site or found subsequently shall be carried out by the Developer in accordance with the SNH post construction ornithological monitoring guidance (SNH, 2009, or any amending, supplementary and/or successor guidance) and will be carried out in Development operational years 1, 3, 5, 10, 15 and 25. The results of all such ornithological monitoring and surveys such shall be reported as soon as practicable in writing by the Developer to the ECoW and the planning authority.</p> <p>20.6 All mortalities of all protected bird species known or suspected as having been occasioned by collision with any part of the Development infrastructure which are identified by the Developer shall be reported as soon as practicable in writing by the Developer to SNH and the planning authority.</p> <p>20.7 Monitoring of sward height shall be carried out by the Developer in the months of July, August or September in operational years 1-5 (inclusive), 7, 10, 15 and 25 and shall be reported by the Developer to the planning authority and the HMP Steering Group.</p> <p>20.8 A report detailing the results of the year's sward height monitoring and any recommendations for the sward management of areas of cleared forestry shall be produced by the Developer at the end of each monitoring year, and shall be reported in writing by the Developer to the planning authority and the HMP Steering Group by the 31st December of Development construction years 1 and 2 and operational years 1, 2, 3, 4, 5, 7, 10, 15 and 25.</p> <p>20.9 All monitoring, surveying and reporting required by this deemed planning permission condition 20 shall be implemented in full by the Developer.</p> <p><i>Reason: to ensure that impacts on protected species, vegetation and of tree felling are</i></p>

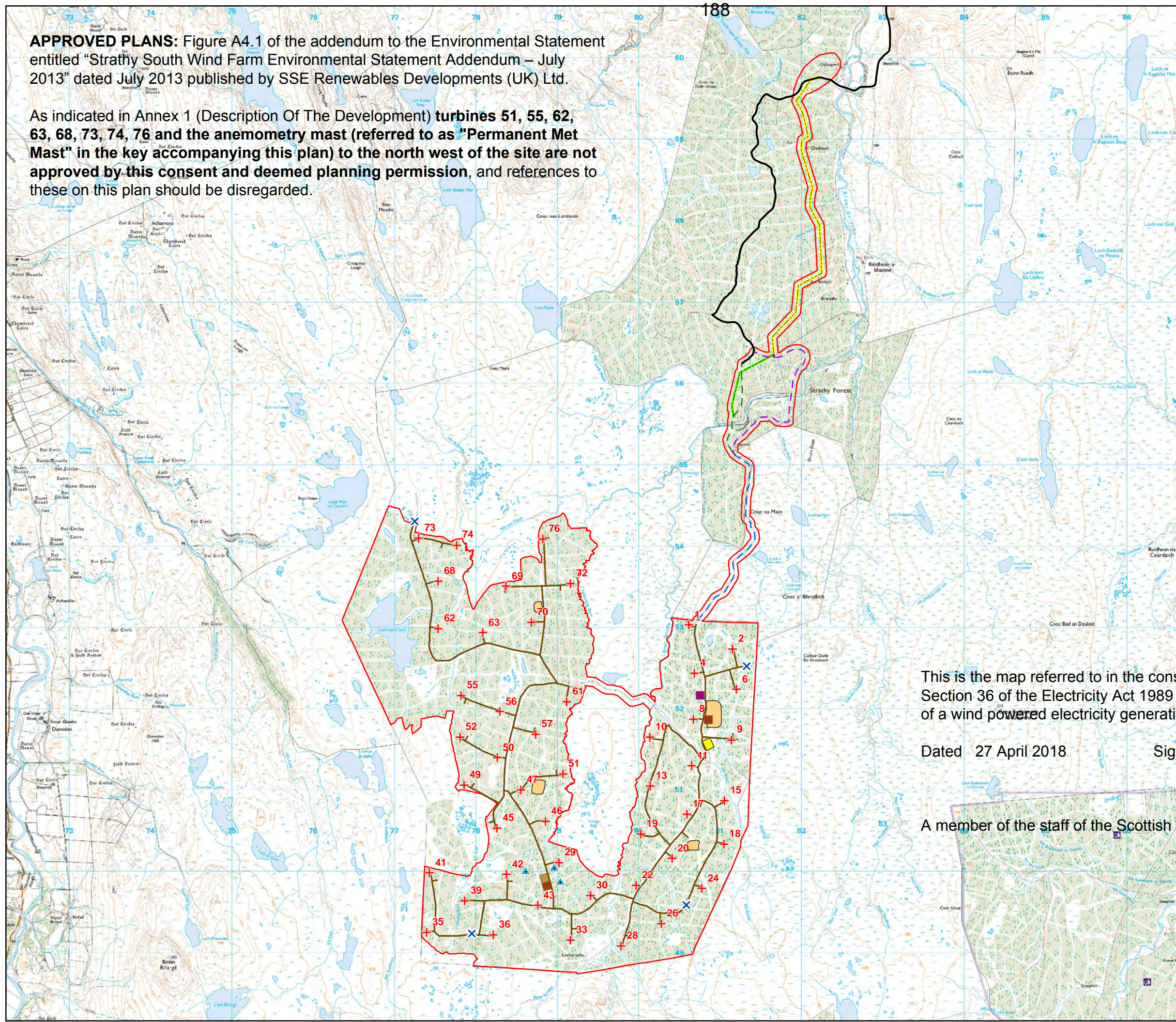
	<i>identified, reported on and in the case of protected species mitigated appropriately.</i>
21.	<p>Archaeology</p> <p>21.1 No development shall commence until an Archaeological Programme of Work (APoW) for the evaluation, preservation and recording of any archaeological and historic features affected by the Development, including a timetable for investigation, has been submitted to and agreed in writing by the planning authority.</p> <p>21.2 The APoW shall provide details of the archaeological evaluation to determine the archaeological baseline of the application site to be undertaken in advance of development; measures to be taken if significant deposits are encountered; and, shall include:</p> <ul style="list-style-type: none"> (a) A scheme of investigation containing details of areas where there is potential for archaeological remains, features or deposits to be present; and, methodologies for archaeological monitoring during all site groundworks and site clearance work, including construction of access roads and service arrangements, and in those areas identified where there is potential for archaeological remains, features or deposits to be present. The methodology shall specify how and where topsoil stripping (using a smooth-bladed bucket) shall be monitored and guided by an archaeologist so that any buried archaeological features can be identified, recorded and/or appropriate mitigation put in place to ensure their preservation. (b) Specification of a programme of post-excavation analysis for all recovered artefacts and ecofacts detailing how the results will be incorporated into a final report to be published. (c) A project design with details of how the Company will adhere to the minimum standards set out in the Highland Council Standards for Archaeological Work published at http://www.highland.gov.uk/downloads/file/1022/standards_for_archaeological_wok. (d) Arrangements for providing advance notice of archaeological fieldwork to the planning authority, along with contact names, telephone numbers and arrangements for access. (e) Arrangements for communications including a schedule for reports to the planning authority by telephone in every week where archaeological fieldwork is undertaken, and details of how the Company will advise the planning authority immediately after any unexpectedly significant or complex discoveries, or other unexpected occurrences which might significantly affect the archaeological work, with details of how such finds or features will be left in situ until arrangements have been agreed for safeguarding or recording them. (f) Specification of an archive and report including arrangements for dissemination and publication, all according to the standards set out in the Highland Council Standards for Archaeological Work. (g) Details of how all work will be undertaken according to the Code of Conduct, Standards and Guidance of the Chartered Institute for Archaeologists. <p>21.3 The approved APoW required by this deemed planning permission condition 21 shall be implemented in full.</p> <p><i>Reason: in order to ensure the protection or recording of archaeological features on the site.</i></p>
22.	<p>Peat Stability Plan</p> <p>22.1 No development shall commence until a Peat Stability Management Plan, developed in consultation with SEPA and SNH, has been submitted to and approved in writing by the planning authority. The Peat Stability Management Plan shall draw upon the findings of the Environmental Statement, peat landslide risk assessment, and the findings of any additional ground investigations carried out prior to development commencing.</p>

	<p>22.2 The Peat Stability Management Plan shall take due consideration of the mineral and slope stability of the site identified in the peat landslide risk assessment and shall have regard to the drainage implications of soil movement and storage. The Peat Stability Management Plan shall be implemented as approved.</p> <p><i>Reason: to minimise the risk of peat failure arising from the Development.</i></p>
23.	<p>Habitat Management Plan</p> <p>23.1 No development shall commence until a Habitat Management Plan has been submitted to and approved in writing by the planning authority in consultation with SNH and SEPA. The Habitat Management Plan shall set out proposed long term management for the wind farm site and shall provide for the management, monitoring and reporting of terrestrial habitats on site. The Habitat Management Plan shall include as an aim targeted sward management to reduce attractiveness of the wind farm site for breeding hen harriers.</p> <p>23.2 The approved Habitat Management Plan will be reviewed and updated by the Developer to reflect ground condition surveys undertaken during construction and prior to the Date of First Commissioning and shall be submitted to and approved in writing by the planning authority in consultation with SNH and SEPA prior to the Date of First Commissioning.</p> <p>23.3 In furtherance of the aim and for the better implementation and review of the Habitat Management Plan a Steering Group (HMP SG) shall be formed prior to the commencement of development. The membership of this HMP SG will include representatives of the Developer, the planning authority and SNH.</p> <p>23.4 The Habitat Management Plan shall be further reviewed by the Developer at a frequency of no longer than the 5 year anniversary of the Date of First Commissioning, and no longer than every 6 years thereafter until the Development is no longer in operation and the Decommissioning and Restoration Plan has been implemented in full. The Developer shall submit a stage reviewed Habitat Management Plan following each such Habitat Management Plan monitoring year as provided for in the Habitat Management Plan for approval in writing by the planning authority in consultation with SNH and SEPA. Mitigation identified through the reviewed Habitat Management Plan shall be implemented in full by the Developer, unless otherwise agreed in writing by the planning authority in consultation with SNH and SEPA.</p> <p>23.5 HMP monitoring (excluding sward height monitoring) shall be carried out by the Developer in operational years 1, 5, 10, 15 and 25 and shall be reported to the planning authority and the HMP Steering Group in writing by the Developer.</p> <p>23.6 The Developer shall submit a monitoring report to the planning authority, SNH and SEPA on the ongoing implementation of the Habitat Management Plan which will be provided no later than 6 months after the end of each HMP monitoring year. The monitoring report shall present an assessment of the implementation of the Habitat Management Plan, including:</p> <ul style="list-style-type: none"> • An assessment of the implementation of the Habitat Management Plan, and any reviewed such plan, in relation to the aims and objectives of the plan. • The levels, if any, of habitat restoration delivered on site. • The results of any monitoring and surveys required in compliance with the conditions of this deemed planning permission. <p>23.7 If a monitoring report, identifies that the implementation of the Habitat Management Plan is not meeting the aims and objectives of the Habitat Management Plan then this shall be reported by the Developer to the HMP SG along with details of the proposed mitigation and any other works considered to be required to ensure the aims and objectives of the approved Habitat Management Plan will be met within 6 months of the relevant monitoring report being so submitted. The HMP SG will review such proposals and make recommendations thereon. The Developer shall then finalise</p>

	<p>proposed mitigation and other works, incorporate changes into an updated Habitat Management Plan which shall be submitted to the planning authority within 12 months of the relevant monitoring report for written approval in consultation with SNH and SEPA.</p> <p>23.8 The approved Habitat Management Plan, each approved reviewed Habitat Management Plan and updated mitigation and works to achieve same shall be implemented in full by the Developer.</p> <p>23.9 In implementing the Habitat Management Plan the Developer shall comply in full with the joint agency guidance "Use of Trees Cleared to Facilitate Development on Afforested Land - Joint Guidance from SEPA, SNH and Forestry Commission Scotland" LUPS-GU27 version 1 (April 2014) and SEPA waste management regulatory guidance "Management of forestry waste" WST-G-027 version 2 (July 2013) and in both cases any amending, substitute or replacement guidance.</p> <p><i>Reason: in the interests of good land management, the protection of habitats and to minimise collision risk to bird species which are qualifying interests of the Caithness and Sutherland Peatlands Special Protection Area.</i></p>
24.	<p>Deer Management Plan</p> <p>24.1 No development shall commence until a Deer Management Plan has been submitted to and approved in writing by the planning authority in consultation with SNH. The deer management plan shall set out proposed long term management of deer using the wind farm site to safeguard adjacent areas of the Caithness and Sutherland Peatlands Special Area of Conservation (SAC) and shall provide for the monitoring of deer numbers on the wind farm site and of impacts from deer grazing and trampling on SAC habitat within and adjacent to the wind farm site from the period from commencement of development until the date of completion of restoration.</p> <p>24.2 The approved deer management plan shall thereafter be implemented in full.</p> <p><i>Reason: in the interests of good land management, and the management of deer and to avoid any increase in deer impacts on SAC habitats that might arise from displacement of deer from the wind farm site.</i></p>
25.	<p>Borrow Pit Working</p> <p>25. No development shall commence until a proposed scheme for the working of each borrow pit within the site has been submitted to, and approved in writing by, the planning authority, in consultation with SEPA and SNH. Thereafter, the scheme shall be implemented as approved. The scheme shall make provision for:</p> <ol style="list-style-type: none"> i. Methods of working (including the timing of works and the use of explosives and/or rock-breaking equipment). ii. A description of the volume and type of minerals, aggregates and/or fines to be extracted from each borrow pit, including harness and potential for pollution. iii. A site plan and section drawings showing the location and extent of each proposed extraction area. iv. Overburden (peat, soil and rock) handling and management. v. Drainage infrastructure, including measures to prevent the drying out of surrounding peatland. vi. A programme for the re-instatement, restoration and aftercare of each borrow pit once working has ceased. <p>The approved scheme shall thereafter be implemented in full.</p> <p><i>Reason: to ensure that a scheme is in place to control the use of borrow pits to minimise the level of visual intrusion and any adverse impacts as a result of the construction phase of the Development.</i></p>

APPROVED PLANS: Figure A4.1 of the addendum to the Environmental Statement entitled "Strathy South Wind Farm Environmental Statement Addendum – July 2013" dated July 2013 published by SSE Renewables Developments (UK) Ltd.

As indicated in Annex 1 (Description Of The Development) turbines 51, 55, 62, 63, 68, 73, 74, 76 and the anemometry mast (referred to as "Permanent Met Mast" in the key accompanying this plan) to the north west of the site are not approved by this consent and deemed planning permission, and references to these on this plan should be disregarded.



Key

- + Turbine
- x Permanent Met Mast
- ▲ Water Abstraction Location
- Tracks
- Strathy North Access Route
- - - Preferred Access Route
- - - Alternative Access Route
- - - Common Access Route
- Preferred Indicative Cable Route through Strathy North
- Alternative Indicative Cable Route through Strathy North
- Common Indicative Cable Route through Strathy North
- Concrete Batching Plant
- Construction Compound
- Laydown Area
- Switching Station
- Borrow Pit
- Site Boundary

This is the map referred to in the consent by the Scottish Ministers in terms of Section 36 of the Electricity Act 1989 for the construction and operation of a wind powered electricity generating station South of Strathy, Sutherland

Dated 27 April 2018

Signed

REDACTED

SUE KEARNS

A member of the staff of the Scottish Ministers.

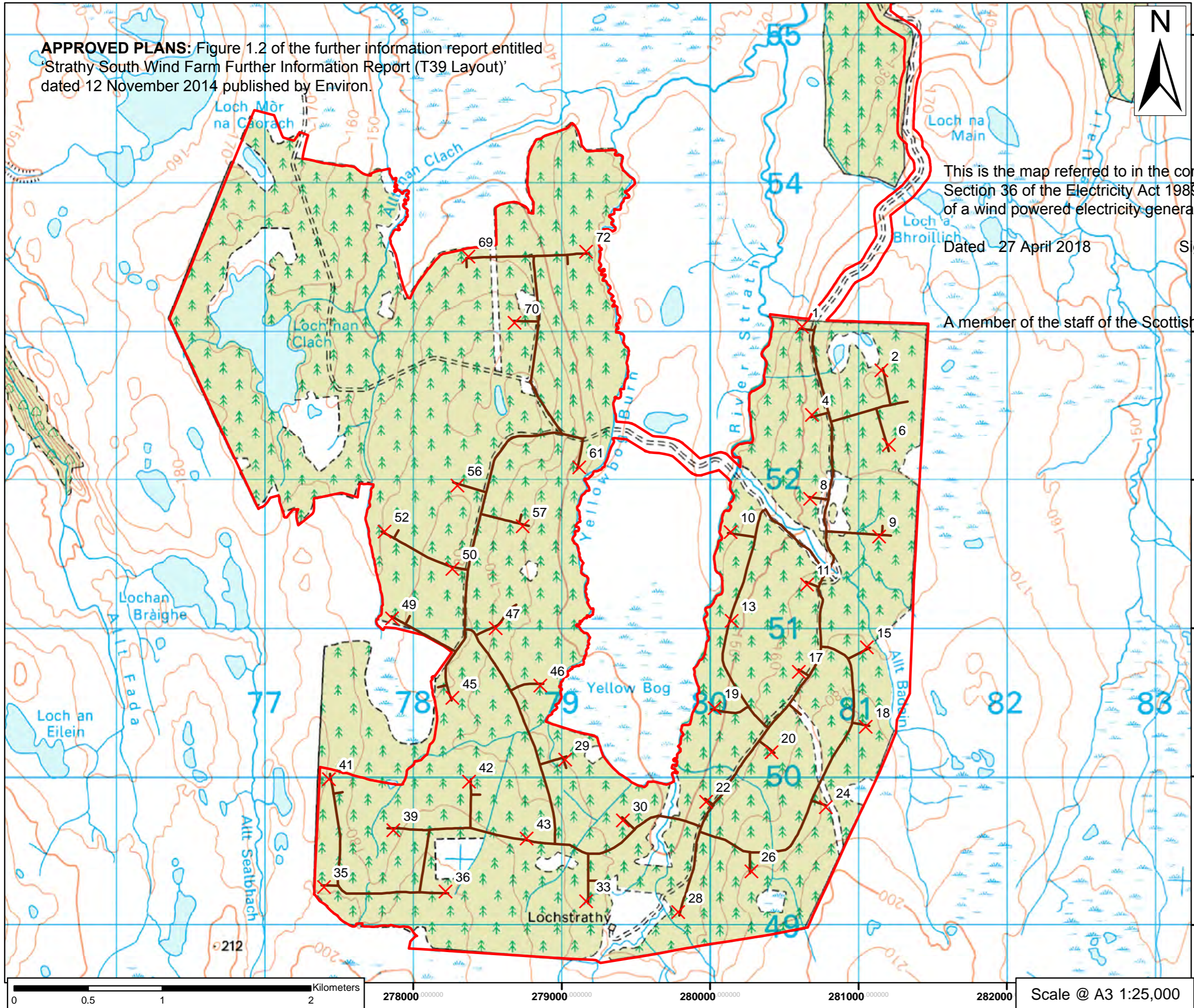
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Figure A4.1
MODIFIED 2013 SCHEME

Strathy South Wind Farm
Environmental Statement Addendum

APPROVED PLANS: Figure 1.2 of the further information report entitled 'Strathy South Wind Farm Further Information Report (T39 Layout)' dated 12 November 2014 published by Environ.



This is the map referred to in the consent by the Scottish Ministers in terms of Section 36 of the Electricity Act 1989 for the construction and operation of a wind powered electricity generating station South of Strathy, Sutherland

Dated 27 April 2018

Signed

REDACTED

SUE KEARNS

A member of the staff of the Scottish Ministers.

Figure 1.2: T39 Layout

Strathy South Wind Farm Further Information Report: T39 Layout

Client: SSE Renewables

Date
August 2014

Drawn by
LS

Project No.
UK12-17181

Issue
1



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278000 279000 280000 281000 282000

Scale @ A3 1:25,000

Planning and Environmental Appeals Division

Report to the Scottish Ministers



SECTION 36 OF THE ELECTRICITY ACT 1989 AND SECTION 57 OF TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997

Report by J Alasdair Edwards, a reporter appointed by the Scottish Ministers

- Case reference: WIN-270-2
- Site Address: South of Strathy, Strathy, Sutherland
- Application for consent (S36 Electricity Act 1989) and deemed planning permission (S57 Town and Country Planning (Scotland) Act 1997) by Scottish and Southern Energy Generation Limited
- The development proposed: construction and operation of Strathy South Wind Farm comprising 39 wind turbines, maximum tip height of 135 metres, access tracks, temporary borrow pits, anemometer masts, control building, switching station and underground cabling
- Dates of inquiry / hearing sessions: 23-24 April 2015 & 9-13 June 2015

Date of this report and recommendation: 24 February 2016



CONTENTS

	Page
Summary Report	2
Preamble	10
Chapters	
1. Background	12
2. Policy context	20
3. Landscape and visual impact	27
4. Wild land	43
5. Impact on ornithology	49
6. Impact on ecology	248
7. Impact on peat	256
8. Carbon payback period	286
9. Economic benefits / dis-benefits	299
10. Other relevant issues	305
11. Proposed conditions and legal agreements	308
12. Overall conclusions and recommendations	313
Appendix 1: Conditions	319
Appendix 2: Table of relevant development plan policies	343
Appendix 3: Schedule of documents	346

Closing submissions (these can be opened by clicking on the relevant party):

- (1) [The applicant.](#)
- (2) [The Highland Council and Scottish Natural Heritage.](#)
- (3) [RSPB Scotland.](#)
- (4) [The John Muir Trust.](#)
- (5) [Wildland Limited Northern Estates.](#)
- (6) [Mr Jim Johnson](#) (for the local support group).
- (7) [Mr Simon Lee](#) (a supporter).
- (8) [The Melness and Tongue Community Development Trust.](#)

Planning and Environmental Appeals Division

Summary of Report of Inquiry into application under section 36 of the Electricity Act 1989 and deemed application for planning permission under section 57 of the Town and Country Planning (Scotland) Act 1997 (as amended)



The construction and operation of Strathy South Wind Farm south of Strathy, Caithness

- Case reference WIN-270-2
 - Case type Application for consent (S36 Electricity Act 1989) and deemed planning permission (S57 Town and Country Planning (Scotland) Act 1997 (as amended))
 - Reporter J Alasdair Edwards
 - Applicant SSE Generation Limited
 - Planning authority The Highland Council
 - Other parties Scottish Natural Heritage
SEPA
RSPB Scotland
The John Muir Trust
Wildland Limited Northern Estates
Ms Alexandra Patience
Melness and Tongue Community Development Trust
Northern District Salmon Fisheries Board
Plantlife Scotland
Mr Chester Kelly
Mr Simon Lee
Mr Peter Batten
- A local support group consisting of:
Bettyhill, Strathnaver and Altnaharra Community Council
Strathy and Armadale Community Council
Mr Callum McLeod
Ms Janette McKay
Ms Joyce Campbell
Mr Jim Johnson
- Dates of applications Original application: 2007
Modified application: July 2013
Current application: November 2014
 - Date case received by DPEA 3 September 2014
 - Method of consideration and dates Inquiry sessions 9-12 June 2015
Hearing sessions 23-24 April 2015 & 12 June 2015
 - Date of report 24 February 2016

- Reporter's recommendation Grant S36 consent and deemed planning permission subject to conditions

The Site:

The application site is located within a U-shaped commercial forestry block some 15 kilometres (km) south of Strathy village, and 35 kilometres south-west of the settlement of Thurso. The forest extends 12 to 17km inland from the north coast. The proposed wind farm boundary follows the forest boundary, encompassing an area of approximately 1,600 hectares (ha). The inner U-shaped forest and site boundary area is delineated by the River Strathy on the eastern side, Yellow Bog on the southern side, and the Yellowbog Burn on the western side.

Strathy North Wind Farm (comprising 33 turbines at 110 metres high) is located some 8 km to the north of the application site. The Caithness and Sutherland Peatlands Special Protection Area (SPA) / Ramsar site and Special Area of Conservation (SAC) designations surround, but do not include, the application site.

The site would be accessed from an existing forestry access track, which branches from the A836.

Description of the Development:

The main components of the current proposal are:

- 39 wind turbines, with a hub height of 83m, tip height of up to 135m high, and maximum rotor diameter of 104m
- use of 3.4 MW turbines
- reinforced concrete foundations for each turbine, typically 16-20m in diameter by 2m to 3m deep (4.758 to 5.734ha of permanent land take)
- access from the A836 public road via the access to the Strathy North Wind Farm
- 36.5 kilometres of access tracks
- 18 stream crossings
- a single switching station
- 4 anemometry masts at 90m high
- cabling trenches estimated at 42km in length
- 4 borrow pits
- 1 site compounds; 1 lay down area; fewer crane pads
- a 100m by 100m concrete batching plant.

Background to the Proposal:

In 2007, SSE Generation Limited (the applicant) sought consent under section 36 of the Electricity Act 1989, and deemed planning consent under section 57(2) of the Town and Country Planning (Scotland) Act 1997 (as amended), to construct and operate a 177 megawatt (MW) wind farm to the south of Strathy village.

In July 2013 the applicant varied the application by deleting 30 wind turbines from the original scheme; increasing the height of the turbines to 135 metres high; reducing the

number of laydown areas and borrow pits; and re-positioning the remaining turbines to optimise their yield and reduce environmental impact.

The Highland Council objected to the modified 2013 scheme on 10 June 2014 “on the basis of concerns highlighted by Scottish Natural Heritage, thereby the proposal was contrary to the Council’s Highland-wide Local Development Plan, Policies 57 (Natural, Built and Cultural Heritage) and 67 (Renewable Energy).”

The applicant confirmed to the Energy Consents and Development Unit of the Scottish Government (EDCU) that it wished Scottish Ministers to move to determine the application which would necessitate a public inquiry. The application was passed to the Planning and Environmental Appeals Division (DPEA) to conduct the public inquiry in September 2014.

In response to this objection and in order to address the concerns of the Ministry of Defence (MoD) and Scottish Natural Heritage (SNH) the applicant decided to further modify the application. Confirmation of the modification from 47 to 39 turbines was on 27 October 2014 to the DPEA. As a consequence, the MoD withdrew its objection. However, SNH (and the Highland Council) and others maintained objections to the proposed development.

Consultations and Representations

Consultation responses

Key parties were consulted on each amendment to the development. The following consultees had no objection to the proposal:

- The Joint Radio Company Limited.
- BT, OFCOM and the UK Water Industries.
- The Civil Aviation Authority.
- NATS (En Route) Public Limited Company (“NERL”).
- The Ministry of Defence (Defence Infrastructure Organisation).
- Historic Scotland.
- Marine Scotland (recommending that electrofishing be carried out in late summer/autumn).
- The Scottish Environment Protection Agency.
- Transport Scotland – Trunk Road and Bus Operations.
- Scottish Water.

Strathy and Armadale Community Council supported the proposal as the environmental benefits would outweigh any impacts; commitment to restore and manage a significant area of local peatland; benefits to local suppliers, employers, and local facilities/services/activities.

The following consultees objected to the proposal: Scottish Natural Heritage; The John Muir Trust; Scotways; RSPB Scotland; and the Scottish Wildlife Trust. The Northern District Salmon Fishery Board provided commentary but no objection to the proposal.

Representations

A total of 162 letters of representation to the wind farm application have been submitted since 2007, of which 138 were objections and 24 were in support.

Approximately 500 'postcard' objections were also submitted to RSPB Scotland raising concerns about the ornithological and peatland impact of the proposed development.

Following the revision to 39 turbines those who had made representations were informed of the change and given the chance to opt-in to the inquiry proceedings. This correspondence with representees confirmed that "all previous representations in relation to the development would remain valid and would be taken into account when determining the application."

Further objections were submitted to the revised 39 turbine scheme from individuals and organisations, including Wildland Limited Northern Estates, Buglife and Plantlife Scotland on the basis of landscape and visual impact, impact on wild land, and harm to the designations surrounding the application site.

Individuals also wrote in favour of the revised application because of job creation, support for local businesses, financial aid, peatland restoration and limited visual intrusion.

The Applicant's Case:

The applicant considers that a substantial amount of time and effort has been invested in providing updated information and amendments over almost a decade to find a suitable wind farm solution on the application site. The amended application for 39 wind turbines would comply with national and development plan provisions, and contribute to renewable energy targets.

The layout and design would avoid significant landscape and visual impacts, and would have no adverse impact on the qualities of wild land. There would be likely significant effects on qualifying interests of the Caithness and Sutherland SPA (greenshank, red-throated diver, and hen harrier). However, it can be concluded beyond reasonable scientific doubt that the conservation objectives would not be undermined; and that there would be no adverse impact on the integrity of the SPA.

There would be no adverse impact to protected species or fish stocks. The proposal would provide beneficial peatland restoration and return the application site primarily back to blanket bog from commercial forestry. The proposal would not have an adverse impact on the integrity of the Caithness and Sutherland SAC. The carbon payback calculation is acceptable and can be relied upon by Scottish Ministers. There would be substantial benefits to the local, Highland and Scottish economies as a result of development; including the potential for community ownership of a turbine. No other significant effects are predicted to natural, built, social or economic interests.

SNH's Case:

Scottish Natural Heritage objects due to harmful impacts to the Caithness and Sutherland Peatlands Special Protection Area in relation to red-throated diver and greenshank. Adverse impacts on hen harrier could be avoided by the use of sward height management.

The impact on wood sandpiper and other qualifying interests of the SPA would not likely be significant. The integrity of the Caithness and Sutherland Special Area of Conservation would be maintained. There would be no adverse impact on any other protected species or designations.

RSPB Scotland's Case:

RSPB Scotland objects due to unacceptable harm to greenshank, hen harrier, red-throated diver, and wood sandpiper; adverse effects on the integrity of the adjacent Caithness and Sutherland Peatlands Special Protection Area, Ramsar site, and underlying SSSIs; the carbon payback period being significantly underestimated; and the permanent legacy of turbine base, roads, hard-standings and damaged peatland hydrology (even after decommissioning) undermining the potential inscription of the Flow Country as a UNESCO World Heritage Site. The application is contrary to the development plan.

The Highland Council's Case:

The Highland Council maintained its objection to the proposed application after modification to 39 wind turbines. It supports the position of Scottish Natural Heritage and considers that application to be contrary to policies 57 and 67 of the Highland-wide Local Development Plan.

Other Parties' Cases:

The John Muir Trust objects due to cumulative impact in terms of combined visibility and sequential impact; visual impact from National Scenic Areas and from areas of wild land; the impact on ecologically sensitive and vital peatlands; and the socio-economic impact. The proposal would breach national and local policy provisions.

Wildland Limited Northern Estates due to landscape and visual impact (including cumulative impact); impact on two national scenic areas; peat loss; impact on nearby estates set for significant investment; and impact on wild land.

Mr Peter Batten objects as the carbon payback period is substantially under-estimated.

Ms Alexandra Patience (a local resident) objects due to environmental impacts; and the landscape and visual impact of the proposed development.

Scotways objects due to the impact on Hill Track 344.

Scottish Wildlife Trust objects because of the impact on areas of deep peat (>1m) which should be avoided; and harmful impact on adjacent designations.

Plantlife Scotland objects because of the impact on the integrity of the Caithness and Sutherland Peatlands SAC and Ramsar site; impact on a Zone of Opportunity for important plant life; harm to the status of the Flow Country (a potential World Heritage Site); and the legacy of hardstanding impeding future peatland restoration. The proposal is also unnecessary to meet renewable energy targets; and it would be in conflict with national policy regarding peatland protection and restoration.

SEPA considers that Scottish Ministers can be confident in the carbon payback figure produced by the applicant. No objection is given to the proposal subject to conditions, including those to control water quality in relation to salmon and sea trout.

Northern District Salmon Fisheries Board has no reason to object to the proposed development but it does have a duty to try to ensure that the development does not impact on salmonoid populations. Timber removal over mulching is suggested; as well as a co-ordinated response to developments within the Strathy River catchment.

The Melness and Tongue Community Development Trust supports the proposed development based on the overriding need for the social and economic development opportunities that the wind farm promises. The benefits would provide a lifeline to the community and traditions.

Mr Simon Lee (a local resident) supports the proposed development as it would cut carbon emissions; undertake a huge programme of peatland restoration; and therefore help to tackle climate change.

Local support group supports the application because it would make a significant contribution to low carbon electricity generation; help to mitigate climate change; provide major peatland restoration; and provide long-term community funding.

Mr Chester Kelly supports the use of shared infrastructure (access) with the proposed Strathy Wood Wind Farm.

Reporter's Conclusions:

Overall, having regard to his findings, the reporter concludes in relation to the proposed development that:

- The applicant, when formulating its proposals, has had sufficient regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and has suggested reasonable forms of mitigation where appropriate.
- The content of the environmental information submitted provides a sound basis to assess the proposed development; the findings and proposed mitigation (as controlled through conditions which would be imposed on consent and deemed planning permission) are sufficient to find that there would be limited adverse impacts arising from the proposed development, including (as far as possible) to the stock of fish in any waters.
- The removal of commercial forestry and restoration of moorland would provide a positive landscape enhancement. The character, appearance and scenic qualities of national scenic areas would be maintained. There would be a limited number of significant landscape and visual impacts, including cumulative impacts, but these would be from relatively remote locations. The vast majority of views from residences, routes, trails and summits assessed would have no significant landscape or visual impacts, including cumulatively and sequentially. Overall, the landscape and visual impact would be acceptable.

- The character and qualities of wild land areas would not be adversely affected.
- Owing to potential effects on red-throated diver, greenshank and hen harrier an assessment, under Regulation 61 of the Conservation of Habitats and Species Regulations 2010, requires to be made of the implications of the project for the Caithness and Sutherland Peatlands SPA in view of the site's conservation objectives. For the reasons given in chapter 5, and having identified all the aspects of the proposed development which, whether by themselves or in combination with other consented or proposed developments, could affect the conservation objectives of the SPA, the proposed development would not have an adverse effect on the integrity of the SPA. That conclusion is based on his assessment of the evidence presented to the inquiry and his satisfaction that no reasonable scientific doubt remains as to the absence of such effects.
- No other bird species would be adversely affected by the proposed development.
- Mitigation measures, and continued monitoring and management, would ensure no harm to protected species on land or in the River Strathy catchment.
- The removal of commercial forestry and restoration (primarily to blanket bog) would support peatland revival and areas of important plant life.
- Restoration would not draw on funding specifically directed at peatland restoration therefore freeing monies for other projects.
- Peat extraction would not be significant in relation to the site and surroundings; and could be successfully re-instated, moved, stored, maintained and used in restoration.
- Hydro-connectivity between areas of peat would be retained.
- Any impact on the future nomination and designation process for the Flow Country World Heritage Site would likely be neutral.
- An assessment under Regulation 61 of the Conservation of Habitats and Species Regulations 2010 in relation to the Caithness and Sutherland Peatlands Special Area of Conservation is not required.
- There is sufficient information to justify the carbon payback period and give Scottish Ministers confidence in the calculated 1.1 year period expected payback period.
- There would be significant economic investment in the local area, Highland and Scotland supporting local contractors; jobs opportunities; and local services, facilities and accommodation providers.
- The income share agreement to allow Melness and Tongue Community Development Trust to own part of the proposed development would secure long-term financial stability for the Trust to the benefit of community chosen projects.

- Investment in the local area would aid population retention.
- Any impacts in relation to air safety; noise; access; human safety; public water supply; telecommunications and cultural heritage would be insignificant, acceptable and/or mitigated successfully with conditions.
- The conditions presented in Appendix 1 are fit for purpose and enforceable should the need arise.

The reporter concludes that the proposed development is supported by national policies which promote the development of onshore wind farms in appropriate locations, and is consistent with the provisions of the Highland-wide Local Development Plan, supplementary guidance and national guidance. He also concludes that any adverse environmental effects of the proposal would be satisfactorily mitigated by the provisions within the proposed conditions (see Appendix 1), or are otherwise acceptable as part of the balancing exercise, and that there are no other material considerations which would justify refusing consent for the project.

Recommendations:

It is recommended that Scottish Ministers:

1. Grant consent under section 36 of the Electricity Act 1989 for the application (for 39 wind turbines), subject to the relevant conditions set out in Appendix 1.
2. Grant deemed planning permission under section 57 of the Town and Country Planning (Scotland) Act 1997 (as amended) for the application, subject to the relevant conditions set out in Appendix 1.

Scottish Government Planning and Environmental Appeals Division
4 The Courtyard
Callendar Business Park
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File reference: WIN-270-2

The Scottish Ministers
Edinburgh

Ministers

In accordance with my minute of appointment dated 30 September 2014 I conducted a public inquiry in connection with an application to construct and operate the Strathy South Wind Farm at land south of Strathy, Sutherland. The Highland Council as planning authority has lodged an objection to the proposal which has not been withdrawn.

The original 2007 application for 77 wind turbines of 110 metres high was revised in July 2013 to 47 wind turbines measuring 135 metres high. A further revision was made in November 2014 to reduce the number of turbines from 47 to 39 but retained the height of the turbines at 135 metres. This is the current proposal that is before Scottish Ministers for determination.

I held a pre-examination meeting on Wednesday 28 January 2015 to consider the arrangements and procedures for the public inquiry. It was agreed that ornithological issues would be addressed through inquiry sessions. In addition it was agreed that there would be hearing sessions on the following issues: national and planning policy, peat, economic benefits/dis-benefits, and conditions and legal agreements. Further written submissions would be invited on salmon and sea trout impacts, the impact on Important Plant Life, wild Land impacts, landscape and visual impact (including cumulative impact), access, and the carbon payback period.

The inquiry sessions were held on 9-13 June 2015, and the hearing sessions took place on 23 and 24 April 2015. Closing submissions were exchanged in writing, with the final closing submission (on behalf of the applicant) being lodged on 19 October 2015.

I conducted unaccompanied inspections of the application site, its surroundings and other locations referred to in evidence on 23-25 March 2015, and 14 June 2015. Accompanied site inspections of the application site took place on 27 April 2015.

My report, which is arranged on a topic basis, takes account of the precognitions, written statements, documents and closing submissions lodged by the parties, together with the discussion at the inquiry and hearing sessions. It also takes account of the Environmental Assessment, Addendum and other environmental information submitted by the parties, and the written representations made in connection with the proposal.

Representations were sent directly to Mr Ewing MSP, Minister for Business, Energy and Tourism, following the completion of closing submissions. The content of these representations has not been subject to parties comments or considered as part of this

report. However, the Minister is aware of the representations which have been passed to him in relation to the Strathy South Wind Farm application.

CHAPTER 1: BACKGROUND

The proposal

The original application

1.1 In 2007, SSE Generation Limited (the applicant) sought consent under section 36 of the Electricity Act 1989, and deemed planning consent under section 57(2) of the Town and Country Planning (Scotland) Act 1997 (as amended), to construct and operate a 177 megawatt (MW) wind farm to the south of Strathy village.

1.2 The main components of that proposal were:

- 77 wind turbines, with a hub height of 70 metres (m), tip height of up to 110m high, and maximum rotor diameter of 80m
- use of 2.3 MW turbines
- turbines on reinforced concrete foundations, with an internal or external transformer
- site tracks allowing access to each turbine, extending from an access track based upon existing forestry track
- 8 borrow pits
- 3 laydown areas / construction compounds
- 26 stream crossings
- a control building and switching-stations
- anemometer masts
- access from the A836 at Strathy village via an existing forestry track.

1.3 The application was accompanied by an Environmental Statement (ES)¹ which followed a scoping exercise conducted in 2004². The site layout for the original proposal can be found in the ES³.

Proposed amendment 2012

1.4 The applicant proposed to amend the proposal in September 2012 to address matters raised in response to the original scheme and further reduce the environmental impact. In summary, eight turbines were to be removed due to ornithological sensitivities; one was to be removed due to proximity with the Lochstrathy bothy; and five were to be re-positioned to optimise wind yield. It was also suggested to increase the height of the turbines to 135m high. As a consequence of the changes the output would decrease to 157 MW. This amendment was not officially implemented. However, the layout for this scheme can be found in the re-consultation letter which sought views on the changes⁴.

¹ Core documents CD_2.1, 2.2, 2.3, 2.4 and 2.5.

² [Applicant's 2004 scoping exercise](#). [CD 1.1]

³ Figure 2 - Site Layout. [CD_2.1]

⁴ Figure 4.1 – Site Layout. [CD_3.1]

Modified application 2013

1.5 In July 2013 the applicant officially varied the application to provide a wind farm with generation capacity for 160 MW. The key change included deletion of 30 wind turbines from the original scheme; increasing the height of the turbines to 135 metres high; reducing the number of laydown areas and borrow pits; and re-positioning the remaining turbines to optimise their yield and reduce environmental impact. An addendum to the ES⁵ was produced to support the modified scheme. A layout of the modified scheme is provided in the ES addendum⁶.

1.6 The main components of the 2013 scheme were:

- 47 wind turbines, with a hub height of 83m, tip height of up to 135m high, and maximum rotor diameter of 104m
- use of 3.4 MW turbines
- reinforced concrete foundations for each turbine, typically 16-20m in diameter by 2m to 3m deep
- access from the A836 public road via the access to the Strathy North Wind Farm
- 36.5km of access tracks
- 18 stream crossings
- a single switching station
- 4 anemometry masts at 90m high
- cabling trenches estimated at 42km in length
- 4 borrow pits
- 1 site compounds; 1 lay down area; fewer crane pads
- a 100m by 100m concrete batching plant.

Modified and current application 2014

1.7 The Highland Council objected to the modified 2013 scheme on 10 June 2014 (further details are given below)⁷. The applicant confirmed to the Energy Consents and Development Unit of the Scottish Government (EDCU) that it wished Scottish Ministers to move to determine the application which would necessitate, under the terms of paragraph 2(2) of Schedule 8 of the Electricity Act 1989, to call a public inquiry. The application was passed to the Planning and Environmental Appeals Division (DPEA) to conduct the public inquiry in September 2014.

1.8 In response to this objection and in order to address the concerns of the Ministry of Defence (MoD) and Scottish Natural Heritage (SNH) the applicant decided to further modify the application. Confirmation of the modification from 47 to 39 turbines was on 27 October 2014 to the DPEA⁸. Further Environmental Information (FEI) was produced in support of the modification⁹.

⁵ Core documents CD_4.1 to 4.7. [CD_4.1 to CD_4.7]

⁶ Figure 2 – Wind Turbine Locations. [CD 4.1]

⁷ Confirmation letter to EDCU of THC objection dated 16 June 2014. [CD 6.2]

⁸ [Letter from applicant's agent to DPEA confirming turbine number reduction.](#)

⁹ Core documents CD_5.1 and 5.2. [CD 5.1 and 5.2]

1.9 The main components of the current modified proposal are:

- 39 wind turbines, with a hub height of 83m, tip height of up to 135m high, and maximum rotor diameter of 104m
- use of 3.4 MW turbines
- reinforced concrete foundations for each turbine, typically 16-20m in diameter by 2m to 3m deep (4.758 to 5.734ha of permanent land take)
- access from the A836 public road via the access to the Strathy North Wind Farm
- 36.5 kilometres of access tracks
- 18 stream crossings
- a single switching station
- 4 anemometry masts at 90m high
- cabling trenches estimated at 42km in length
- 4 borrow pits
- 1 site compounds; 1 lay down area; fewer crane pads
- a 100m by 100m concrete batching plant.

1.10 This modified proposal is the application examined through the public inquiry and is subject to determination by Scottish Ministers. Typical turbine elevations, foundation and hardstanding, and details of associated building works are found in the ES Addendum¹⁰.

Site description

1.11 The application site¹¹ is located within a U-shaped commercial forestry block some 15 kilometres (km) south of Strathy village, and 35 kilometres south-west of the settlement of Thurso. The forest extends 12 to 17 kilometres inland from the north coast. The proposed wind farm boundary follows the forest boundary, encompassing an area of approximately 1,600 hectares (ha). The inner U-shaped forest and site boundary area is delineated by the River Strathy on the eastern side, Yellow Bog on the southern side, and the Yellowbog Burn on the western side. The ground on the site rises in elevation from approximately 140m above ordnance datum (AOD) to 190m.

1.11 Strathy North Wind Farm (comprising 33 turbines at 110 metres high) is located some 8 km to the north of the application site. Other turbines in operation, under construction, consented or submitted within 60 kilometres of the application site are illustrated in the ES Addendum¹² and shown in a table¹³. Further key features in the surrounding area include the Caithness and Sutherland Peatlands Special Protection Area (SPA) / Ramsar site and Special Area of Conservation (SAC) designations (underpinned by various Sites of Special Scientific Interest (SSSI)) which surround, but do not include, the application site. Further landscape constraints in the surrounding area are shown in the updated landscape and visual impact cumulative assessment¹⁴. Constraints to the layout of the wind farm are shown in the ES Addendum¹⁵.

¹⁰ Core document 4.3 Figures A4.3 to A4.19. [CD 4.3]

¹¹ Core document 4.3 Figure A1.1 – Site Location. [CD 4.3]

¹² Core document 4.3 Figure A9.25 – Cumulative LVIA Search Area Plan. [CD 4.3]

¹³ Core document 4.4, Chapter 9, Table 9.1 – Development information included in the Cumulative Impact Assessment. [CD 4.4]

¹⁴ Core document 5.1, Technical Appendix 5.1, Figure 3 – Key Landscape Constraints. [CD 5.1]

¹⁵ Core document 4.3 Figure A4.2 – Layout Constraints. [CD 4.3]

1.12 As shown in the Further Information Report¹⁶, the site would be accessed from an existing forestry access track, which branches from the A836. The proposed turbine layout is shown in figures 1.1 and 1.2 of the same report.

Consultation responses

1.13 Key parties were consulted on the original 2007 application; the 2012 proposed amendment; the 2013 modified application; the current 39 turbine scheme of 2014; and further environmental information produced to support the 2014 scheme and provided during the public inquiry process.

1.14 Responses to the original application and 2012 proposed amendment can be found in the ES Addendum¹⁷. Responses to further modifications and further environmental information can be found on the EDCU paper file or electronically at the DPEA web-site¹⁸.

1.15 Focusing on responses to the proposed 39 turbine layout, the following consultees had no objection to the proposal:

- The Joint Radio Company Limited.
- BT, OFCOM and the UK Water Industries.
- The Civil Aviation Authority.
- NATS (En Route) Public Limited Company (“NERL”).
- The Ministry of Defence (Defence Infrastructure Organisation).
- Historic Scotland.
- Marine Scotland (recommending that electrofishing be carried out in late summer/autumn).
- The Scottish Environment Protection Agency.
- Transport Scotland – Trunk Road and Bus Operations.
- Scottish Water.

1.16 Strathy and Armadale Community Council supported the proposal as the environmental benefits would outweigh any impacts; commitment to restore and manage a significant area of local peatland; benefits to local suppliers, employers, and local facilities/services/activities.

1.17 The consultees below objected to the proposal:

- The John Muir Trust due to cumulative impact in terms of combined visibility and sequential impact. Visual impact from National Scenic Areas and from areas of wild land; the impact on ecologically sensitive and vital peatlands; and the socio-economic impact were also of concern. The proposal would breach national policy.
- Scotways due to the impact on Hill Track 344.
- RSPB Scotland due to unacceptable harm to Greenshank, Hen Harrier, Red-Throated Diver, and Wood Sandpiper; adverse effects on the integrity of the adjacent Caithness and Sutherland Peatlands Special Protection Area, Ramsar site, and underlying SSSIs; permanent legacy of turbine base, roads, hard-

¹⁶ Core document 5.1 Figure 4.1 – Access Tracks. [CD 5.1]

¹⁷ Core document 4.4 Chapter 5 – 2007 Consultation Responses & Reconsultation Responses. [CD 4.4]

¹⁸ www.dpea.scotland.gov.uk – Search reference WIN-270-2.

standings and damaged peatland hydrology even after decommissioning; could undermine potential inscription of the Flow Country as a UNESCO World Heritage Site; contrary to the development plan; and the carbon payback period is likely to significantly underestimated.

- Scottish Wildlife Trust because of the impact on areas of deep peat (>1m) which should be avoided; and harmful impact on adjacent designations.
- Scottish Natural Heritage due to harmful impacts to the Caithness and Sutherland Peatlands Special Protection Area, particularly to red-throated diver (displacement and assumed loss of up to two breeding sites; plus collision risk may be significant) and greenshank (potential loss of 10 to 12 breeding pairs). Acceptable impact on hen harrier and wood sandpiper. Acceptable impact on Caithness and Sutherland Peatlands SAC. Acceptable landscape and visual impact and wild land impact.

Representations

1.18 A total of 162 letters of representation to the wind farm application have been submitted since 2007, of which 138 were objections and 24 were in support. Following the revision to 39 turbines those who had made representations were informed of the change and given the chance to opt-in to the inquiry proceedings¹⁹. This correspondence with representees confirmed that “all previous representations in relation to the development would remain valid and would be taken into account when determining the application.” The representations are summarised under the chapter headings of this report. General, or non-material comments, included that:

- The proposal would reduce property value in the area.
- Local democracy and the decision of the Highland Council to object to the proposal should be respected.
- Wind turbines should be sited offshore.
- Reliance on wind power could destabilise the power supply (grid).
- Wind turbines cause higher electrical bills.

1.19 Approximately 500 ‘postcard’ objections were also submitted to RSPB Scotland raising concerns about the ornithological and peatland impact of the proposed development²⁰.

1.20 Ms Alexandra Patience confirmed during the economic benefits/dis-benefits hearing session that Melvich Community Council were in objection to the application. This followed the issue of 200 fliers in the community which returned 111 objections and 5 responses of support²¹.

1.21 Further representations were received when the application was revised from 47 to 39 turbines. The following objected to the revised proposal:

- Mrs Hilary Ridge due to environmental impact.
- Ms Valerie Smith as the revision was immaterial.
- Mr Peter Batten as the carbon payback period is substantially under-estimated.

¹⁹ Letter from DPEA dated 18 November 2014.

²⁰ RSPB objection postcards.

²¹ [Melvich Community Council Response dated 4 October 2013.](#)

- Ms Alexandra Patience due to environmental and landscape and visual impact.
- Wildland Limited due to landscape and visual impact (including cumulative impact); impact on two national scenic areas; peat loss; impact on nearby estates set for significant investment; and impact on wild land.
- Buglife due to the negative impact on the adjacent Caithness and Sutherland Peatlands Special Area of Conservation, Special Protection Area and Ramsar site; harm to blanket bog; prevention of restoration; and conflict with Scottish Government policies regarding peatland protection and restoration.
- Plantlife Scotland because of the impact on the integrity of the Caithness and Sutherland Peatlands Special Area of Conservation and Ramsar site; impact on a Zone of Opportunity for important plant life; harm to status of the Flow Country listed as a UK candidate site for World Heritage Site status; the proposal would leave a legacy of hardstanding impeding future peatland restoration; it is unnecessary to meet renewable energy targets; and it would be in conflict with national policy regarding peatland protection and restoration.

1.22 The following individuals provided support for the revised proposal:

- Sidney and Ruth Campbell because of job creation and support for local businesses.
- Mr Callum McLeod as it would not be visually intrusive; it would reclaim peatlands: and it would make a substantial financial contribution to the local community.
- Ms Janette Mackay due to support for a declining population; employment; and financial support to aid local organisations and activities.
- Ms Joyce Campbell as it would secure employment and job security for local firms; it would support local projects and the rural community; and aid peatland restoration.

1.23 Six letters of objection were also sent directly to Scottish Ministers. These objections contained similar points of concern as those presented in paragraph 1.18 above.

Council consideration

1.24 At its meeting on 10 June 2014 the North Planning Application Committee decided that the Highland Council would object to the proposed development of 47 wind turbines²². The committee response was formally noted as:

“To object to the application on the basis of concerns highlighted by Scottish Natural Heritage, thereby the proposal was contrary to the Council’s Highland-wide Local Development Plan, Policies 57 (Natural, Built and Cultural Heritage) and 67 (Renewable Energy).”

1.25 The Highland Council continued to maintain its objection to the reduced proposal for 39 wind turbines.

²² Minute of North Planning Application Committee of 10 June 2014. [CD_6.4]

Legal context

The Electricity Act 1989

1.26 The application to construct and operate a wind farm is being made under Section 36 of the Electricity Act 1989 which requires the consent of the Secretary of State (Scottish Ministers) to extend or operate a generating station (a wind farm in this case). Consent may include conditions as appear appropriate to Scottish Ministers.

1.27 When formulating proposals, and when considering proposals, the provisions of Schedule 9 of the Act (which relate to the preservation of amenity and fisheries) apply. Those formulating proposals:

“(a) shall have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and

(b) shall do what he reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.”

Those considering proposals shall have regard to:

(a) the desirability of the matters mentioned in paragraph (a) [as set out above]; and
(b) the extent to which the person by whom the proposals were formulated has complied with his duty to reasonably mitigate any effects [as set out in (b) above].

Furthermore, in exercising the above functions both those operating a wind farm and Scottish Ministers shall avoid, so far as possible, causing injury to fisheries or to the stock of fish in any waters.

The Town and Country Planning (Scotland) Act 1997 (as amended)

1.28 Section 57 of the Town and Country Planning (Scotland) Act 1997 (as amended) gives ‘deemed planning permission’ to development that otherwise requires government authorisation. Section 57(2) states:

“On granting a consent under section 36 or 37 of the Electricity Act 1989 in respect of any operation or change of use that constitutes development, the Secretary of State may direct that planning permission for that development and ancillary development shall be deemed to be granted, subject to conditions (if any) as may be specified in the direction.

1.29 Section 263A of the Act states that “where any area is for the time being designated as a National Scenic Area, special attention is to be paid to the desirability of safeguarding or enhancing its character or appearance in the exercise, with respect to any land in that area, of any powers under this Act.”

European Directives

1.30 A Special Protection Area is a site designated under the European Directive on Conservation of Wild Birds (directive 2009/147/EC) to protect birds that are considered rare or vulnerable within the European Community and all regularly occurring migratory birds. Enacted in the UK through the Wildlife and Countryside Act 1981 and subsequent amendments and the Conservation (Natural Habitats &c) Regulations 1994.

1.31 A Special Areas of Conservation is designated under the European Directive on the Conservation of Natural Habitats and Wild Flora and Fauna (92/43/EEC) to protect sites that are considered rare because of their habitats or the species contained within them. Enacted in the UK through the Conservation (Natural Habitats &c) Regulations 1994.

1.32 Natura is a network of nature conservation sites across Europe. These site comprise both Special Protection Areas for birds identified under the Birds Directive and Special Areas of Conservation for habitats and species listed within the Habitats Directive. The Habitats Directive and Birds Directive are given effect in domestic law by the Conservation of Habitats and Species Regulations 2010 (SI 2010/490). If a proposal is likely to have a significant impact on a European site then an ‘appropriate assessment’ of the implications for the site in view of that site’s conservation objectives is required. Having taken into account consultation responses a competent authority (the decision-maker) may only grant permission for a proposal after having ascertained that it would not affect the integrity of the European site. Even if there would be a significant impact on a site that would affect its integrity permission can be granted if there is an overriding public interest.

The Nature Conservation (Scotland) Act 2004

1.33 This Act places a statutory duty on all public bodies to further the conservation of biodiversity. Section 1 of the Act states, “it is the duty of every public body and office holder, in exercising any functions, to further the conservation of biodiversity so far as it is consistent with the proper exercise of those functions.”

The Climate Change (Scotland) Act 2009

1.34 Section 1 of the Act states that “The Scottish Ministers must ensure that the net Scottish emissions account for the year 2050 is at least 80% lower than the baseline.” Section 2 provides an interim target of 42% lower than the baseline by 2020. For carbon dioxide the baseline year is 1990.

Environmental impact assessment

1.35 The applicant has provided several environmental statements and further environmental information during the application process. Unless otherwise stated, then it can be taken that I adopt the findings and conclusions of the environmental statement, addendum and further environmental information.

CHAPTER 2: POLICY CONTEXT

Evidence relating to the policy context

2.1 Key evidence with respect to the policy context includes:

- The Highland Council North Planning Applications Committee report²³ and objection letter²⁴.
- Statement of agreement on planning policy between the applicant, Scottish Natural Heritage, and the Highland Council²⁵.
- Hearing statements on the topic from the applicant²⁶; the Highland Council²⁷; Wildland Limited Northern Estates²⁸; the John Muir Trust²⁹; and Mr Simon Lee³⁰.
- Discussions during a hearing session held on policy matters³¹.

Scope of evidence

2.2 The hearing session on policy included discussion on the application of section 36 and schedule 9 of the Electricity Act 1989; the biodiversity duty and climate change duty; greenhouse gas emissions and renewable energy targets; national policy; the provisions of the development plan; and other material considerations.

2.3 In policy terms, the only dispute between the applicant, Scottish Natural Heritage and the Highland Council was compatibility with local development plan policies 57 (natural, built and cultural heritage) and 67 (renewable energy developments) relating entirely to natural heritage issues of international interest in respect of the Caithness and Sutherland Peatlands Special Protection Area; specifically the impact on Red-throated Diver and Greenshank.

2.4 Representations, see paragraph 1.18, expressed the following comments:

- The proposal is contrary to the provisions of the development plan.
- The contribution to renewable energy targets would be minimal.
- Renewable energy is supported by national policy.
- The proposal would aid in the fight against global warming.

2.5 Mr Simon Lee's evidence is endorsed by the Melness and Tongue Community Development Trust and supported by the Board of Friends of the Earth Scotland.

²³ [Report to North Planning Applications Committee](#). [CD_6.1]

²⁴ [Objection letter from the Highland Council](#). [CD_6.2]

²⁵ [Statement of Agreement on Planning Policy](#). [CD_10.1]

²⁶ [SSE Generation Limited Hearing Statement on policy](#).

²⁷ [The Highland Council Hearing Statement on policy](#).

²⁸ [Wildland Limited Northern Estates Hearing Statement on policy](#).

²⁹ [John Muir Trust Hearing Statement on policy](#).

³⁰ [Mr Simon Lee Hearing Statement on policy](#).

³¹ [Policy hearing session agenda and participation](#).

Legislative matters and duties

2.6 All parties agreed with the John Muir Trust and Wildland Limited Northern Estates suggestion that the matters to be considered (as set out in section 36 and schedule 9 of the Electricity Act 1989 – see paragraphs 1.25 and 1.26) should be balanced by the decision-maker.

2.7 Parties also agreed that the statutory tests related to the consideration of planning applications contained within the Town and Country Planning (Scotland) Act 1997 (as amended) are not engaged when considering an application under the Electricity Act. Compliance or non-compliance with development plan provisions was just one consideration to be taken into account in determining the application.

2.8 Mr Lee introduced the concept that the requirement to meet targets set out in the Climate Change (Scotland) Act 2009 (underpinned by international commitments on climate change over the decades) should take precedence over protection of natural heritage interests. At the hearing Mr Lee also suggested that there was a moral obligation to look at the global implications of development. The applicant considered that Scottish Ministers would have to balance respective climate change commitments and the biodiversity duty. The John Muir Trust and Wildland Limited Northern Estates agreed with this approach and suggested that, in any event, the duties were implicit within national and development plan policy to be applied to the application.

Greenhouse gases and the renewable energy targets

2.9 All parties agreed that renewable energy generation was supported at a European and national level. However, that statement was caveated by all parties who agreed that such support was conditional on development being in the right location, where the impacts and benefits of a proposal were balanced in the decision making process.

2.10 The following targets were accepted by parties:

- A reduction in European Union (EU) greenhouse gas emissions of at least 20% below 1990 levels and increasing the proportion of final EU energy consumption from renewable sources to 20% by 2020 (set in 2008)³². [Emerging EU policy from 2014 is for a 40% reduction below 1990 levels and 27% of EU energy consumption coming from renewables by 2030³³.]
- For the United Kingdom, the European Commission's obligations include 16% reduction in UK greenhouse gas emissions by 2020 and for 15% of all energy consumed in the UK to come from renewable sources.
- In Scotland, a target to meet an equivalent of 100% demand from renewable energy by 2020; and enabling local and community ownership of at least 500 MW of renewable energy by 2020.

2.11 As introduced by parties, the UK Government has published various documents to support, encourage and monitor the achievement of the above targets. These include the

³² The EU 20-20-20 targets package, January 2008 (see applicant's hearing statement).

³³ EU 2030 Energy and Climate Change Policy, 22 January 2014 (see applicant's hearing statement).

UK Renewable Energy Strategy (2009)³⁴; the UK Low Carbon Transition Plan (2009); and the UK Renewable Energy Roadmap (2011) and its update (2013).

2.12 The following documents were also highlighted by the applicant in relation to the Scottish context: The 2020 Routemap for Renewable Energy in Scotland (2011)³⁵ and its update (2013)³⁶; the Electricity Generation Policy Statement (2013)³⁷; and the 'Renewable Energy' Report by Audit Scotland (2013)³⁸.

2.13 It was agreed by parties that the 2020 renewable energy target was the equivalent to 16 giga watts (GW) of installed renewables. Scottish Government documentation³⁹ confirms that as of September 2014 Scotland had 7.1 GW of installed renewable energy generation capacity, with an additional 8.7 GW of capacity either under construction or consented. Taking account of proposals "in planning" there was a total figure of 19.8 GW of renewables. All parties accepted that not all projects would progress to commissioning. Indeed, the applicant highlighted that a report from Audit Scotland⁴⁰ found that "it is unlikely that all of these projects will proceed, as they may fail to secure planning permission or finance."

2.14 The John Muir Trust and Wildland Limited Northern Estates argued that a report from Professor Ponton (a former Edinburgh University Professor) estimated that the 2020 renewable energy target had already been met. Therefore, the weight to be given to a contribution to the target should be limited. The applicant contended that the professor's report was not submitted for scrutiny, and that the professor was not in attendance to discuss his findings. In any case, the applicant argued that further to the possibility that all projected projects would not be forthcoming that there was no cap on providing renewables.

National Planning Framework 3⁴¹

2.15 I note that the National Planning Framework is a long-term strategy for Scotland. It is the spatial expression of the Government Economic Strategy, and of Scottish Ministers plans for development and investment in infrastructure. Scottish Ministers expect planning decisions to support its delivery and should inform development and investment decisions. The third framework was published in 2014.

2.16 The agreed policy statement from parties confirms that the vision and paragraphs relating to 'a low carbon place' (particularly paragraphs 3.1, 3.7, 3.8, 3.9, 3.12 and 3.15) are relevant to the application. In essence, these paragraphs include: an ambition "to achieve at least an 80% reduction in greenhouse gas emissions by 2050" (over 1990 levels); a commitment to a planned approach to onshore wind energy development which largely avoids international and nationally protected areas; a wish to meet at least 30% of overall energy demand from renewables by 2020; a need to capitalise on Scotland's wind resource; and encouragement of further local and community renewable energy ownership.

³⁴ [UK Renewable Energy Strategy \(2009\)](#). [CD_15.1]

³⁵ [The 2020 Routemap for Renewable Energy in Scotland](#). [CD_9.3]

³⁶ [The 2020 Routemap update](#). [CD_9.4]

³⁷ [Electricity Generation Policy Statement \(2013\)](#). [CD_15.3]

³⁸ [Audit Scotland Report from 2013](#). [CD_15.4]

³⁹ [Energy in Scotland 2015 Extracts](#). [CD_15.8]

⁴⁰ [Renewable Energy Report, Audit Scotland, page 26 & Exhibit 9](#). [CD_15.4]

⁴¹ [National Planning Framework 3](#). [CD_7.1]

2.17 At the hearing parties agreed with me that the content of chapter 4 ‘a natural, resilient place’ were relevant with regard to protection of landscapes and wilderness (paragraph 4.4); protection of biodiversity (paragraphs 4.5 and 4.10); and peatland restoration (paragraph 4.22).

2.18 The applicant argued that the application would contribute to the national vision to Scotland becoming a ‘low carbon place’ capitalising on the wind resource while providing sufficient protection to the landscape, wild land, peat, and biodiversity. The Highland Council and Scottish Natural Heritage’s position is that the application would impact on natural heritage assets (namely birds). Whilst, the John Muir Trust and Wildland Limited Northern Estates are of the opinion that the application would fail to protect landscapes, wilderness, and peat.

Scottish Planning Policy⁴²

2.19 I observe that Scottish Planning Policy (2014) sets out the Scottish Ministers’ priorities for operation of the planning system and for the development and use of land. Through the agreed policy statement parties confirmed that the principal policies on sustainability and placemaking, and paragraphs relating to the following were relevant to the application:

- The Scottish Government’s purpose of creating a more successful country through increasing sustainable economic growth (paragraph 9), as set out in the 16 national outcomes (paragraph 10).
- Creating a successful, sustainable place (paragraph 13; outcome 1).
- Contributing to a low carbon place and renewable energy targets (paragraph 18; outcome 2).
- A commitment to sustainable development (paragraph 25).
- A presumption in favour of development that contributes to sustainable development (paragraphs 27, 32-34).
- Enabling development that balances the costs and benefits of a proposal over the longer term (paragraph 28).
- Guiding principles for decisions (paragraph 29).
- Context and principles for delivering heat and electricity supporting the transformational change to a low carbon economy including deriving 30% of overall energy demand from renewable resources by 2020; and the equivalent of 100% electricity demand from renewable sources by 2020 (paragraphs 152-154).
- The offshore wind section (paragraphs 161-170; and table 1: spatial frameworks) which explains that planning authorities should set out in the development plan a spatial framework identifying areas that are likely to be most appropriate for onshore wind farms as a guide to developers and communities, following the approach in table 1. Considerations for onshore wind farms as set out in paragraph 169.
- The policy principles set out in the ‘valuing the natural environment’ chapter (paragraph 194) to maintain distinctive landscape character; conserve and protect sites and species; promote the protection of the water environment; seek to protect soils; and seek benefits for biodiversity wherever possible.
- Paragraph 203 states that “planning permission should be refused where the nature or scale of the proposed development would have an unacceptable impact

⁴² [Scottish Planning Policy](#). [CD_7.2]

on the natural environment.” But, that “designation does not impose an automatic prohibition on development.”

- That “planning authorities should apply the precautionary principle where the impacts of development on nationally or internationally significant landscape or natural heritage resources are uncertain but there is sound evidence indicating that significant irreversible damage could occur.” (Paragraph 204).
- The need for appropriate assessment where a proposal is likely to have a significant effect on a Special Protection Area or Special Area of Conservation. Such proposals “may only be approved if the competent authority has ascertained by means of an “appropriate assessment” that there will be no adverse effect on the integrity of the site.” (Paragraph 207).
- Proposals that could harm the integrity of a Natura site could be approved if: there are no alternative solutions; there are imperative reasons of overriding public interest; and compensatory measures are provided to ensure that the overall coherence of the Natura network is protected. (Paragraph 208-209).
- That the presence (or potential presence) of a legally protected species is an important consideration (paragraph 214).

2.20 Parties also agreed that the provisions of paragraph 218 were relevant, referring to the Scottish Government’s Control of Woodland Removal Policy which includes a presumption in favour of protecting woodland. Felling of woodland should only be permitted where there would be significant and clearly defined additional public benefits. Generally, developers would be expected to provide compensatory planting.

2.21 There was no dispute that the provisions of paragraph 147 (world heritage sites) were not relevant to any site identified as a candidate world heritage site, including the Flow Country.

2.22 All parties agreed at the hearing that the presumption in favour of sustainable development was a significant consideration in decision-making. The primacy of the development plan was acknowledged, and that the current development plan covering the application site was up-to-date. However, Highland Council indicated that as the current spatial framework for onshore wind farms contained in the development plan (and council guidance) predated the publication of Scottish Planning Policy then the contents of table 1 (regarding the spatial framework for onshore wind farms) should be considered. The applicant argued that the content of table 1 was for the planning authority to take into consideration when forming its own spatial strategy, and that some elements may be disregarded depending on the specific circumstances (a view which the Highland Council subsequently agreed). In any case, the applicant considers that the application would fall within group 3 of that table (areas with potential for wind farm development). The John Muir Trust and Wildland Limited Northern Estates considered that it was sufficient for the detailed criteria in paragraph 169 to be considered.

2.23 There was dispute between the parties concerning the meaning of the first sentence of paragraph 170 which states that “areas identified for wind farms should be suitable for use in perpetuity”. The John Muir Trust and Wildland Limited Northern Estates argued that the paragraph sets out a clear “test” which could not be misinterpreted. If a site was not suitable in perpetuity then it would not be in accordance with Scottish Planning Policy. The applicant suggested that the paragraph simply meant that a time limited lifespan should not be used as a mitigation for negative impacts arising from a development (as explained in a

Scottish Government question and answer paper⁴³). A 25 year lifespan was considered normal, and that any impacts from the potential repowering of the site in the future could be assessed at that time.

National guidance

2.24 The applicant also considers the application to be compliant with the Scottish Government's online renewables advice⁴⁴ and relevant Scottish Government Planning Advice Notes on environmental impact assessment⁴⁵; natural heritage⁴⁶; and rural diversification⁴⁷. This was not disputed by other parties.

The development plan

2.25 The development plan covering the application site comprises the Highland-wide Local Development Plan (adopted April 2012)⁴⁸, and elements of the adopted Sutherland Local Plan (as continued in force, April 2012). However, the council acknowledged the general policies of the local plan that would apply to the proposal have all been superseded by the provisions of the local development plan.

2.26 I highlight to Scottish Ministers that the vision of the local development plan is for Highland to be one of Europe's leading regions by 2030 having created sustainable communities, where population growth, economic development, and safeguarding of the environment have been balanced.

2.27 I further highlight that, in reference to the counties Caithness and Sutherland, the local development plan acknowledges that the counties are facing the challenge of regeneration, providing local employment and sustainable economic growth. By 2030 the plan envisages that the Flow Country will have been inscribed on the World Heritage Site list; that tourists will be attracted by the outstanding natural heritage, outdoor activities and key tourist destinations; that the high quality of life in the area will have helped to increase and maintain population levels; and that the engineering and energy sectors will have enabled Dounreay's current 2,000 workforce to have found alternative sources of employment making good use of their transferrable skills.

2.28 All parties agreed at the hearing session that the following policies of the local development plan were relevant (a summary of these policies is provide in Appendix 1):

- 28 Sustainable development.
- 29 Design quality and place making.
- 31 Developer contributions.
- 51 Trees and development.
- 52 Principle of development in woodland.
- 55 Peat and soils.
- 57 Natural, built and cultural heritage.
- 58 Protected species.

⁴³ [Onshore Wind Questions, Scottish Government 2014](#). [CD_15.9]

⁴⁴ [Online renewables advice](#). [CD_7.6]

⁴⁵ [Planning Advice Note on Environmental Impact Assessment](#). [CD_7.3]

⁴⁶ [Planning Advice Note on Natural Heritage](#). [CD_7.4]

⁴⁷ [Planning Advice Note on Rural Diversification](#). [CD_7.5]

⁴⁸ [The Highland-wide Local Development Plan](#). [CD_8.1]

- 59 Other important species.
- 60 Other important habitats and article 10 features.
- 61 Landscape.
- 64 Flood risk.
- 67 Renewable energy developments.
- 68 Community renewable energy projects.
- 72 Pollution.
- 77 Public access.
- 78 Long distance routes.

2.29 Policy 67 was endorsed by all as the key policy in assessing the impact and acceptability of the proposal.

2.30 In relation to policy 57 parties considered that Scottish Ministers would need to weigh the impacts and benefits of the proposal and determine whether approval (if there were adverse impacts on qualifying interests) was in the public interest. Separately, Mr Lee suggested that tacking climate change was in the overall public interest and should be given primacy in decision-making.

Other Highland Council policy and guidance

2.31 The following were also agreed to be applicable to the application:

- Highland Renewable Energy Statement and Planning Guidance (2006)⁴⁹.
- Interim Supplementary Guidance – Onshore Wind Energy (2012)⁵⁰.
- Highland Statutorily Protected Species Supplementary Guidance (2013)⁵¹.
- Draft Onshore Wind Energy Supplementary Guidance (2015)⁵².

Reporter's findings

2.32 My findings on compliance with policy is set out in chapter 12 - overall conclusions and recommendation.

⁴⁹ [The Highland Council's Highland Renewable Energy Statement and Planning Guidance. \[CD_8.3\]](#)

⁵⁰ [The Highland Council's Interim Supplementary Guidance – Onshore Wind Energy. \[CD_8.2\]](#)

⁵¹ The Highland Council's Highland Statutorily Protected Species Supplementary Guidance. [THC 1]

⁵² [The Highland Council's draft Onshore Wind Energy Supplementary Guidance. \[CD_15.6\]](#)

CHAPTER 3: LANDSCAPE AND VISUAL IMPACT

Evidence on landscape and visual impact

3.1 Key evidence relating to this topic includes:

- Chapters 8 (landscape character)⁵³ and 9 (visual impact)⁵⁴, associated figures⁵⁵ and technical appendices⁵⁶ within the 2007 ES.
- Chapters A8 (landscape character) and A9 (visual impact)⁵⁷, associated figures⁵⁸ and technical appendices⁵⁹ of the 2013 ES Addendum.
- The 2014 Further Information Report⁶⁰, associated figures⁶¹ and technical appendix⁶².
- Written submissions in response to a procedure notice⁶³ from:
 - The applicant^{64 65}.
 - Scottish Natural Heritage⁶⁶.
 - Ms Alexandra Patience^{67 68}.
 - Mr Jim Johnson (on behalf of the support group)⁶⁹.
 - The John Muir Trust⁷⁰.
 - Wildland Limited Northern Estates⁷¹.
- Responses to the applicant's written submissions on landscape and visual impact (advertised as further environmental information⁷²⁷³) from:
 - The John Muir Trust and Wildland Limited Northern Estates (combined)⁷⁴.
 - Scottish Natural Heritage⁷⁵.
 - Mr Peter Batten⁷⁶.

⁵³ [Chapter 8 of 2007 ES.](#) [CD 2.2]

⁵⁴ [Chapter 9 of 2007 ES.](#) [CD 2.2]

⁵⁵ Volume 3 of the 2007 Environmental Statement. [CD 2.3]

⁵⁶ Appendix 9.1 (Visual Impact Table, Volume 4 of the 2007 ES. [CD 2.4]

⁵⁷ [Main Report of the 2013 ES Addendum.](#) [CD 4.2]

⁵⁸ Volume 3 of the 2013 ES Addendum. [CD 4.3]

⁵⁹ Appendix A8.2 (cumulative landscape character assessment); A8.3 (cumulative landscape character assessment tables); A9.1 (visual assessment – viewpoint tables); A9.2 (cumulative visual impact assessment); and A9.3 (cumulative visual impact assessment tables). [CD 4.4]

⁶⁰ [Part 5.2 \(LVIA\) of the Further Information Report 2014.](#) [CD 5.1]

⁶¹ Figures 1.1 ([modified 2013 scheme](#)); 1.2 ([T39 layout](#)); 1.3 ([access routes](#)); 1.4 ([Ben Griam Beg Wireframe](#)); and 1.5 ([Ben Griam Beg Photomontage](#)). [CD 5.1]

⁶² [Technical Appendix 5.1: Updated LVIA Cumulative Assessment.](#) [CD 5.2]

⁶³ [Note of pre-examination meeting \(procedure notice 1\).](#)

⁶⁴ [Applicant's response dated 9 March 2015.](#)

⁶⁵ [Applicant's rebuttal dated 23 March 2015.](#)

⁶⁶ [Scottish Natural Heritage response dated 9 March 2015.](#)

⁶⁷ [Ms Patience written response dated 9 March 2015](#) and [supporting photograph](#).

⁶⁸ [Ms Patience's rebuttals dated 31 March 2015](#) and [dated 1 April 2015](#).

⁶⁹ [Mr Johnson \(support group\) response dated 9 March 2015.](#)

⁷⁰ [John Muir Trust written response dated 9 March 2015.](#)

⁷¹ [Wildland Limited Northern Estates response dated 9 March 2015.](#)

⁷² [Correspondence confirming FEI requirement and advertisement.](#)

⁷³ [Correspondence confirming re-advertisement of Further Environmental Information.](#)

⁷⁴ [John Muir Trust and Wildland Limited Northern Estates response dated 29 May 2015.](#)

⁷⁵ [Scottish Natural Heritage response dated 28 May 2015.](#)

Scope of evidence

3.2 The application has been through several revisions supported by landscape and visual impact assessments which have been subject to consultation. Each assessment has followed relevant guidance on the preparation of such studies.

3.3 The 2007 ES included an assessment of landscape character within 30 km of the application site, with a more detailed assessment of local landscape character areas over a 15 km radius. An assessment of visual impact was also conducted over a 30 km radius which included 16 viewpoints (agreed in advance with the Highland Council and Scottish Natural Heritage), where panoramic photographs were taken and photomontages and wirelines produced. A cumulative landscape and visual assessment (CLVIA) was also undertaken of 23 wind farms (operational, consented, or “in planning) within 60 km of the application site. The CLVIA focussed on 16 viewpoints within 15 km of the application site. No objections were raised by statutory consultees in relation to the landscape and visual impact assessment or cumulative assessment.

3.4 The scope of the landscape and visual impact conducted for the 2013 ES Addendum was agreed in detail with both the Highland Council and Scottish Natural Heritage. A study area of 35 km around the application site was selected. Since 2007 a number of wind turbine developments had been removed, others had been added and some had changed their status. A new CLVIA was therefore provided. No objections were raised by statutory consultees in relation to the landscape and visual impact, and cumulative, assessments.

3.5 The 2014 Further Information Report contains a comparison of potential impacts from the previous assessments and was not intended as a re-assessment. This approach was agreed with the Highland Council. No objections were received from statutory consultees on the grounds of landscape and visual, and cumulative, impacts. However, objections were received from Wildland Limited Northern Estates and the John Muir Trust in connection to these matters.

3.6 At the pre-examination meeting it was agreed that landscape and visual impact could be addressed by means of written submissions. The note of the pre-examination meeting (procedure notice 1) requested parties to provide information on areas of contention. The notice asked whether the visual and landscape impact from the following would be acceptable:

- Assynt-Coigach and Kyle of Tongue National Scenic Areas.
- Hill Track 344.
- The Strathnaver Trail.
- Lochstrathy Bothy.
- Ben Hope, Ben Loyal, Ben Griam Beg and Ben Klibreck.
- The roads from Melvich to Tongue (A836), Melvich to Helmsdale (A897), and Tongue to Lairg (A836).
- The scenic viewpoint near Loch Meadie.
- Braerathy Cottage (or Braerathy Lodge).
- The settlement of Strathy.
- Ben Loyal, Kinloch, and Hope and Melness Estates.

⁷⁶ [Mr Batten's response dated 13 April 2015.](#)

3.7 In response to the notice the applicant provided a detailed review of landscape and visual impacts (March 2015) which constituted further environmental information as per regulation 13 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (as amended). Consequently, the review was advertised with a statutory period given for comment.

Representations

3.8 Representations, see paragraph 1.18, expressed the following objections:

- The ES underplays the landscape impact as the overall effect would be “substantially adverse”.
- The quiet, unspoiled and wild landscape should remain undeveloped.
- The proposed turbines would visually dominate the Flow Country.
- Serious visual impact along the Melvich to Tongue and Melvich to Helmsdale roads.
- Harm to views from scenic viewpoints and tourist routes (including the Strathnaver Trail).
- Loch Strathy Bothy is located close to the proposed turbines.
- Negative impact from local and distant peaks (Ben Hope, Ben Loyal, Ben Griam Beg, and Ben Klibreck).
- The cumulative impact/density of turbines in Caithness has reached saturation point.
- Turbines should be reduced in height to 80 metres to reduce visual impact.

The applicant’s position

3.9 The applicant argues that the absence of any landscape capacity study does not mean that there is not a framework for decision-making. Scottish Planning Policy advises that there should not be a moratorium on wind turbine proposals while plans and policies are being devised.

3.10 Two chartered landscape architects were involved in each landscape and visual impact assessment. As per their code of practice the assessments were carried out in an impartial and professional manner. Therefore, although submitted by the John Muir Trust and Wildland Limited Northern Estates, the council did not require any independent expert validation when making reference to environmental statement findings.

3.11 The assessments were at all times carried out in consultation with the Highland Council and Scottish Natural Heritage. At no time was a comprehensive re-assessment required by these parties.

3.12 The applicant also points out that the decision by the Highland Council to object to the proposed application makes no reference to landscape and visual issues.

Landscape and visual impact

3.13 In relation to the original application, the 2007 ES concluded that “although there will be some localised significant adverse impacts on receptors and receptor groups within 10 km of the periphery of the site, (notably on Ben Griam Beg, in Strathy East and a small number of elevated forest tracks/footpaths to the south-east), the impact of the proposal on visual amenity of the study area when taken as a whole, is not considered to be significant”.

3.14 In terms of landscape impact, the 2007 ES considered that “whilst there will be localised significant landscape impacts within 15 km of the proposals, ranging from moderate to moderate-slight, impacts on the overall landscape of the study area will not be significant and impacts upon the [Kyle of Tongue] National Scenic Area and Areas of Great Landscape Value will be negligible. There will be no impact upon the designated landscape at House of Tongue”.

3.15 In modifying the application from 77 to 47 wind turbines, and increasing the turbine height, the 2013 ES Addendum considered the following changes in landscape impact:

Designation or Landscape Character Zone (LCZ)	Potential impact from 2007 scheme	Potential impact from modified 2013 scheme
During construction		
Kyle of Tongue National Scenic Area	Negligible	Negligible
Farr Bay, Strathy & Portskerra Special Landscape Area	Negligible	Slight
Bens Griam & Loch nan Clar Special Landscape Area	Moderate	Moderate
Upland Plateau with Raised Bogs LCZ	Moderate	Moderate
Rocky Coast with Bays LCZ	Moderate-Slight	Moderate-Slight
River Strathy LCZ	Moderate	Moderate
Strath Halladale LCZ	No change	Slight
Strathnaver LCZ	No change	Slight
Broad Upland Basin LCZ	Negligible	Negligible
Landmark Peaks and Foothills LCZ	Moderate	Moderate
During operation		
Kyle of Tongue National Scenic Area	Negligible	Negligible
Farr Bay, Strathy & Portskerra Special Landscape Area	Negligible	Slight
Bens Griam & Loch nan Clar Special Landscape Area	Moderate	Moderate
Upland Plateau with Raised Bogs LCZ	Moderate	Moderate
Rocky Coast with Bays LCZ	Moderate-Slight	Moderate-Slight
River Strathy LCZ	Moderate-Slight	Moderate-Slight
Strath Halladale LCZ	Negligible	Slight

Strathnaver LCZ	Negligible	Slight
Broad Upland Basin LCZ	Negligible	Negligible
Landmark Peaks and Foothills LCZ	Moderate	Moderate

3.16 In concluding, the 2013 ES Addendum states that “it is clear that there would be no change in potential impacts as a result of the modified scheme as, in all cases, the whole of both the original 2007 scheme and the modified 2013 scheme would be visible at distances ranging from 8.5 to 13.5 km. It is not considered that a reduction in numbers or changing turbine geometry of the modified 2013 scheme would have a material effect on potential impact when compared to the original scheme. The impact therefore remains unchanged as moderate adverse.”

3.17 In reviewing the visual impact, the 2013 ES Addendum considered that “while there may be some increase in visibility of turbines and turbine blades tips (either in terms of horizontal spread of the development or overall scale of turbines) as a result of the modified 2013 scheme, the context of the view and the distance between development and viewpoint would not result in any change in the significance of effects.” It continues “from viewpoints to the west of the site, within and close to Strathnaver, the modified 2013 scheme would result in increased impacts when compared to the original 2007 scheme.” These impacts would occur at two viewpoints: (1) view from A836 near Borgie (Viewpoint 3) increasing from slight to slight-moderate adverse impact; and (2) view from B871 at Achargary (Viewpoint 5) increasing from no view to slight-moderate adverse. “In both cases, the increased impacts would result from turbine tips being visible on the horizon (above the enclosing slopes of the valley landscape) to a greater extent than would be the case for the original 2007 scheme. These impacts are not considered to be significant.”

3.18 The current proposal would result in a reduction in turbine numbers at the site: 39 instead of the 47 proposed in 2013. Associated reductions to the track layout, watercourse crossings and hardstanding, while considered to represent reductions in potential landscape character impact, would not be material to the changing character of the landscape in the context of the overall scale of the development proposed. Turbine scale would not change and, while overall turbine numbers would be reduced, the perceived scale of the site, and the development as a whole, would not be altered when comparing layouts.

3.19 While the current proposal would result in a reduction in the extent of designated and non-designated landscape potentially affected by turbine visibility, these would not alter the overall perceived scale of the proposed development or any of the assessed landscape impacts identified in the 2013 ES Addendum.

3.20 The proposal would result in alterations to the horizontal spread, composition and perception of the proposed development from several viewpoints. These changes would result in a change of identified impacts at two of the viewpoints assessed: (1) Bettyhill (Viewpoint 9) from moderate-substantial to moderate (which would remain significant); and (2) Syre Lodge (Viewpoint 16) from negligible to no view (not significant).

3.21 Other than the potential changes in impact noted above, the findings of the 2013 ES Addendum would remain unchanged. The photograph submitted by Ms Patience is some 176 metres from viewpoint 3 near Borgie. It portrays the 47 wind turbine array and therefore exaggerates the potential impact.

National Scenic Areas

3.22 The applicant considers that due to the very limited visibility of the Strathy South turbines from within the Kyle of Tongue National Scenic Area⁷⁷ which is largely restricted to distant summits and slopes, and the relative distances involved, it is considered that the landscape and visual effects on the area would be negligible and not significant. This conclusion is consistent with the responses from Scottish Natural Heritage to the previous environmental statement findings.

3.23 The Assynt-Coigach National Scenic Area is located some 45 km from the closest proposed wind turbine. Current Scottish Natural Heritage guidance does not require assessment of national scenic areas over 40 km from an application site. Nevertheless, the applicant considers that the extremely limited and distant visibility of the proposed development on the national scenic area means that the impact would be at worst neutral and not significant. The applicant also considers that a similar neutral (and not significant) impact would occur in relation to the North-West Sutherland National Scenic Area which is located around 40 km from the application site⁷⁸.

Roads, tracks and trails

3.24 In relation to prominent routes in the area, the applicant considers that visibility of the proposed turbines along the A836 coastal road between Melvich and Tongue (located approximately 9 km to the north of the application site at its closest point⁷⁹) would occur intermittently for approximately one third of the 41 km route. Bearing in mind the limited and intermittent visibility of the scheme; the distance from the development; the focus of the view to the coast rather than the interior; and the impacts of the Strathy North wind farm located to the north of the Strathy South scheme, it is considered that the landscape and visual effects of a journey along this section of the road would not be significant, albeit that there are specific locations and static viewpoints (such as at the Bettyhill scenic viewpoint) where significant effects would be experienced. Furthermore, the applicant considers that the sequential experience for travellers along this section of road arising from the proposal (and others) would not be significant.

3.25 Similarly, the applicant considers that the landscape and visual effects from the A897 Melvich to Helmsdale road (running north-south some 8 km to the east of the application site), and the A836 Tongue to Lairg road (running north-south some 16 km to the west of the application site), would be limited due to intervening topography and because the proposed development would be relatively distant⁸⁰.

3.26 The applicant identifies Hill Track 344 in The Scottish Mountaineering Trust (Fifth Edition 2011) as a route between Strath Halladale (Trantlebeg) to Strathy⁸¹. The applicant notes that the 2007 ES considered that "sections of the Hill Track would be directly affected during the construction of the scheme and therefore impacts on the recreational resource were anticipated to be high and adverse. Also, it acknowledges that the potential visual impact, noise and the reduced experience of walking in remote countryside as a result of

⁷⁷ [Annex 3 of landscape and visual impact review dated March 2015 showing NSAs.](#)

⁷⁸ [Annex 3 of landscape and visual impact review dated March 2015 showing NSAs.](#)

⁷⁹ [Annex 4 of landscape and visual impact review dated March 2015 showing summits, roads, tracks, trails.](#)

⁸⁰ [Annex 4 of landscape and visual impact review dated March 2015 showing summits, roads, tracks, trails.](#)

⁸¹ Shown in figure 16.3.1 of the 2007 ES as Scottish Hill Track 332. [CD_2.3]

the construction of the wind farm would potentially result in a reduced use of the Lochstrathy Bothy (located adjacent to the track). However, it is considered that the removal of coniferous plantation would improve views. Therefore, the potential impacts during the operation of the scheme on the section of Hill Track affected would be medium and adverse.” The visual impacts on Lochstrathy Bothy would be substantial adverse during construction reducing to moderate/substantial during operation but remaining overall significant and adverse.

3.27 The Strathnaver Trail, which explores the history of settlement in Strathnaver based on 16 monuments located between Loch Naver in the south and Farr in the north, is located to the west of the application site. The applicant considers that based on analysis of the zone of theoretical visibility (Annex 4 of the 2015 response) none of the 16 monuments would be intervisible with elements of the proposed development. Therefore, there would be no adverse impacts on the trail.

3.28 The impact on the Forsinard Trail identified by Ms Patience was subject to assessment in the 2007 ES. The trail is located some 8 km from the application site. The majority of the trail would have limited visibility with the wind turbines due to forestry and intervening topography. However, where the turbine tops were visible there would be a moderate adverse visual impact when travelling south and west. The applicant suggests that this would continue to be the case with the current 39 turbine proposal.

Summits

3.29 In relation to summit impacts, the applicant notes that the impact from Ben Loyal (a Corbett some 19.5 km west of the nearest proposed turbine) was assessed in the 2007 ES where it was noted that “the whole of the development would be visible in the distance⁸². The view would be elevated and distant. The wind farm would be visible in east facing views below the skyline. Impacts are assessed as being slight adverse in the longer term.” Ben Loyal was screened out of the 2013 ES Addendum and not included in the 2014 Further Information Report. However, the applicant considers that “as the number of proposed turbines has reduced from 77 to 39, and increased in height from 110 m to 135 m, any adverse impacts experienced at a distance of 19.5 km are unlikely to be greater than those assessed in the 2007 ES. Therefore, it is considered that impacts on Ben Loyal would be no greater than slight adverse in the longer term and that any adverse impacts on this summit resulting from the scheme would not be significant.”

3.30 Ben Hope (a Munro located over 30 km west of the application site⁸³) was not included in any previous assessment. However, the applicant considers that as Ben Loyal is located closer to the site it would be “reasonable to assume that likely adverse impacts on Ben Hope as a result of the development would not be significant either.”

3.31 As indicated above, the applicant expects the impact on Ben Griam Beg (a summit located some 8.5 km to the south of the application site) to be moderate adverse. “However, the 39 turbine scheme would result in an improved composition, resulting in less clashing and stacking of blades and turbines in the centre of the view”.

3.32 Ben Klibreck (a Munro located some 26.8 km to the south of the application site) was included in the 2007 ES assessment (Viewpoint Location 2) which considered that “the

⁸² [Annex 4 of landscape and visual impact review dated March 2015 showing summits, roads, tracks, trails.](#)

⁸³ [Annex 4 of landscape and visual impact review dated March 2015 showing summits, roads, tracks, trails.](#)

whole development would be visible in the far distance. The view is elevated and distant. The wind farm would be visible in north-facing views below the skyline. Impacts are assessed as being negligible both during construction and in the longer term.” The Munro was screened out of the 2013 ES Addendum and not included in the 2014 Further Information Report. In its 2015 response, the applicant considers that the reduction in turbines from 77 to 39 (albeit increased in height) would not be greater than those assessed in 2007. Therefore, it is considered that any adverse impacts on this summit resulting from the scheme would not be significant.

Residential / settlement impact

3.33 In relation to Braerathy Cottage (or Lodge), located some 4 km north-west of the application site⁸⁴, the applicant considered the impact in the 2007 ES as slight adverse due to views from the rear of the property. In its 2015 response, the applicant confirmed that the property is no longer occupied, and that “due to the lack of view of Strathy South turbines in the main view from the property, the obscured view of the Strathy South turbines from the rear of the property and the visibility of Strathy North turbines [located in close proximity] in the main view of the property, it is considered that the visual impact of Strathy South would not be significant.”

3.34 The applicant notes that Strathy is the closest settlement to the proposed development, located to the north of the site. The applicant further notes that “any views of turbines at Strathy will have turbines from Strathy North in front of them.”⁸⁵ In each of the assessments carried out in 2007, 2013 and 2014 the results were that the predicted impact of the proposal would be negligible from the settlement (not significant)⁸⁶.

Northern estates

3.35 The applicant also considered the landscape and visual impact on the Ben Loyal Estate, Kinloch Estate and Hope and Melness Estate⁸⁷. The closest, Ben Loyal Estate, would be some 16 km from the nearest proposed turbine. However, the majority of these northern estates would be over 30 km from the nearest turbine. “The visibility of the scheme is mainly limited to summits and slopes except at the south-west of Loch Loyal adjacent to the A836, where visibility extends over lower lying terrain, and also to the north and west of Loch Craggie, north of Loch Loyal adjacent to the A836.” The applicant contends that “although there will be some localised visibility of the Strathy South turbines from within the northern estates’ land, overall the landscape and visual adverse effects experienced from that land are not considered to be significant.”

Cumulative landscape and visual impact

3.36 Of the 16 viewpoints assessed the 2007 ES it was found that six would be likely to experience “significant cumulative adverse landscape impacts” (Ben Griam Beg; A836 near Borgie; above Forsinard; Ben Loyal; Lochstrathy Bothy; and A836 near Melvich). Of these, Ben Griam Beg and Lochstrathy Bothy were predicted to have “substantial adverse

⁸⁴ [Annex 4 of landscape and visual impact review dated March 2015 showing lodge location.](#)

⁸⁵ [2014 Further Information Report, Figure 13 - Strathy viewpoint.](#) [CD 5.1]

⁸⁶ Note: some properties were predicted in 2007 to have no view, negligible, slight, slight to moderate and moderate adverse individual impacts.

⁸⁷ [Annex 5 of landscape and visual impact assessment dated March 2015 showing estate locations.](#)

cumulative impacts” due to the proposed turbines being viewed in the foreground. The remainder ranged from moderate to moderate-slight adverse impact.

3.37 The assessment contained in the 2013 ES Addendum used updated Scottish Natural Heritage guidance (published 2012). It assessed 32 wind turbine sites (operational, consented, or “in planning”) and one at the scoping stage (Strathy Wood). Eight cumulative viewpoints and four cumulative route receptors were considered. The majority were predicted to have neutral to slight-moderate impacts (not significant). Only two were predicted to have significant impacts: (1) Ben Griam Beg (cumulative viewpoint 1⁸⁸) where the proposed wind turbines together with Strathy North and Strathy Wood Wind Farms would be relatively close and appear as a prominent element in part of the view; and (2) a view from A836 near Borgie (cumulative viewpoint 2⁸⁹) where the proposed wind turbines, and those of Strathy North and Strathy Wood wind farms, would be seen on the skyline.

3.38 Following advice from the Highland Council and Scottish Natural Heritage, the 2014 Further Information Report simply reviewed four viewpoints at Ben Griam Beg; Strathy; Bettyhill; and the A836 east of Melvich. Although there would be a reduction in the extent and turbine visibility as a result of the reduced numbers of turbines, there would be no change to the cumulative assessment provided in the 2013 ES Addendum.

Scottish Natural Heritage’s position

3.39 In 2007, Scottish Natural Heritage provided advice on the impacts of the proposal on the Kyle of Tongue National Scenic Area agreeing with the conclusion of the ES that there would not be a significant adverse effect on the integrity of the designated area⁹⁰. This remains Scottish Natural Heritage’s view. Scottish Natural Heritage also advises that it does not consider that there would be a significant adverse effect on the integrity of the Assynt-Coigach NSA⁹¹.

3.40 The 2007 response also confirmed that Scottish Natural Heritage considers that impacts on landscape character from the proposal would not be significantly adverse. Further, although concerned about the potential for the erosion and loss of distinctive regional landscape character arising from a series of wind farm proposals in the vicinity of the North Sutherland seaboard, and wider adverse impacts on the adjacent areas of regional character of West Sutherland and Caithness, it is not considered that the Strathy South proposal would result in a significant additional cumulative impact with other wind farms.

3.41 Scottish Natural Heritage advised in 2013 that “although there will be substantial impacts on the landscape character of the development site and some neighbouring landscape character types, we consider that the proposal to be within the capacity of the landscape in which it is located.” It further advised that the proposal would have significant impacts on the Ben Griam and Loch Clar Special Landscape Area, although it did not consider that there would be a significant adverse effect on integrity of the special landscape areas and its special qualities⁹².

⁸⁸ 2013 ES Addendum [figures A9.26](#) and [A9.62](#). [CD 2.3]

⁸⁹ 2013 ES Addendum [figures A9.26](#) and [A9.63](#). [CD 2.3]

⁹⁰ [Scottish Natural Heritage response dated 2 October 2007](#). [SNH R-03]

⁹¹ [Scottish Natural Heritage procedure notice response dated 9 March 2015](#).

⁹² [Scottish Natural Heritage response dated 20 November 2013](#). [SSE_14.09 or SNH R-04]

3.42 In 2013, it also recommended that the proposal would have significant visual impacts from Ben Griam Beg and there are likely to be similar significant visual impacts from Ben Griam Mor. At that time, it recommended the removal of turbines 35, 36, 39 and 41 to reduce the apparent extent of the development from key viewpoints within the special landscape area and visual impact from the Ben Griam summits. This recommendation was not the subject of an objection from Scottish Natural Heritage.

3.43 Scottish Natural Heritage also cautioned in 2013 that “if Strathy South is consented, in combination with Strathy North and Strathy Wood, this will have a significant influence on the future capacity of the northern seaboard to accommodate further wind energy development.” The opinion of Scottish Natural Heritage was that “the cumulative impact of the development in conjunction with Strathy North and Strathy Wood result in what will be seen as a single large wind farm of considerable extent, particularly along its north-south axis.”

3.44 Scottish Natural Heritage confirmed that it has not objected to the proposal on grounds of the anticipated landscape and visual impacts and effects of the proposal, including anticipated cumulative impacts and effects⁹³.

The support group’s position

3.45 The support group suggests that the proposed development would be located within a vast landscape. The group acknowledge that turbines would be visible from the summits of Ben Hope, Ben Loyal, Ben Klibreck, Ben Griam Beg and Mor but suggest that the turbines would be fairly distant from most areas of habitation. The development would be “virtually invisible” from Melvich and “on a distant horizon from Strathy” (where Strathy North wind farm would be in the foreground). The visual impact would be slight and would not be sufficient to put off “Munro baggers” or “have any great effect on the more immediate delights of the Queen of Scottish Mountains” (Ben Loyal). Very few, it is argued, venture up the Griams.

The John Muir Trust’s position

3.46 The John Muir Trust consider that the impacts on the Kyle of Tongue National Scenic Area need to be re-assessed by Scottish Natural Heritage to take account of cumulative impact and current national policy. Furthermore, it is suggested that there was no expert validation by the council on landscape and visual impact. Therefore, there was no basis to conclude that the impacts would be acceptable.

3.47 There is no current landscape capacity assessment for the wider area of Sutherland, Caithness and Wester Ross nor is there any up to date spatial guidance that takes account of the cumulative impacts and fieldwork. A full new cumulative impact assessment required.

Wildland Limited Northern Estates’ position

3.48 The objectors have a philosophical approach to sustainable land management that believes in the concept of “Natural Capital”. They are fundamentally against the industrialisation of the most precious and largely unspoilt landscape in Scotland.

⁹³ Scottish Natural Heritage responses [dated 8 January 2015](#) [SNH R-05] and [9 March 2015](#).

3.49 The cumulative effect along with the associated infrastructure is considered by the objectors to be damaging to the long term sustainability of this beautiful wild land in Sutherland. The cumulative effects on the northern estates have not been considered.

3.50 The council has no landscape capacity study and therefore no objective framework to systematically and consistently assess the concerns of objectors.

3.51 The rest of the estates' response follows that of the John Muir Trust's summarised above.

Ms Patience's position

3.52 Ms Patience is a local resident opposed to the proposed development. Ms Patience considers that to some the application site may appear empty and unproductive but she believes that it has a crucial role in our culture, heritage and in our environmental health. In combination with other turbines Ms Patience believes that the proposed development would create a momentous change in the landscape that will never be erased. An important environmental resource would be turned into an industrial landscape.

3.53 Ms Patience has submitted a photomontage showing the previous 47 wind turbine proposal, together with proposals at Strathy Wood and Strathy North wind farms, from a viewpoint on the A836 to illustrate her landscape and visual impact concerns⁹⁴.

3.54 In addition, it is argued that the impact on The Forsinain Trail, developed by RSPB Forsinard, is a popular leisure, educational and community trail where turbines would be visible.

Mr Batten's position

3.55 Mr Batten is an individual objector to the proposed development. He believes that the applicant's assessment of the impact from the summit of Ben Griam Beg does not encompass the more holistic experience of walking from the B871, traversing Ben Griam Mor and then climbing Ben Griam Beg, through a pocket of landscape of considerable wildness with longer-range views framed by Ben Hope and Ben Loyal to the west and Morven and Scaraben to the east.

Reporter's findings

Environmental statements

3.56 The applicant has provided several findings to support various iterations of the proposed development. I am satisfied that the professional landscape architects (acting in accordance with their Institute's code of conduct) carrying out the landscape and visual impact assessments did these in accordance with the Guidelines for Landscape and Visual Impact Assessment published by the Landscape Institute and the Institute for Environmental Management and Assessment, and carried out the assessments following the feedback from Scottish Natural Heritage and the Highland Council. There is a degree of professional judgement required when making assessments, and although other parties

⁹⁴ [Submitted photograph.](#)

may disagree with the findings, I consider them to be impartial and credible. In addition, I consider that there is no need for any further re-assessment. The responses from Scottish Natural Heritage and the Highland Council, and the opportunities provided to others to comment, are satisfactory.

Landscape and visual context

3.57 I note that the application site has undergone a dramatic landscape transition over the last 30 or so years. The ploughing of peatland and the creation of coniferous forestry has modified the site from sweeping moorland to non-native dense woodland and access tracks. This has created an alien landscape. Consequently, I agree with all the parties that removal of the forestry is desirable. The proposal to progressively restore the application site to active peatland would substantially benefit the landscape (this is not in dispute). It would bring continuity to the sweeping moorland landscape character area (rather than the distinct contrast and visual interruption given by the existing forestry).

Landscape impact

3.58 The environmental statements starting from 2007 take the landscape character areas identified by Scottish Natural Heritage as a base to inform the assessment of potential landscape impact on smaller, and more specific, landscape character zones⁹⁵. Therefore, the predicted moderate and moderate-slight impacts on upland plateau and raised bogs, and River Strathy valley landscape character zones (adjacent to the application site) relate to only a small (but distinct) part of the wider sweeping moorland landscape character area identified by Scottish Natural Heritage. Furthermore, the predicted impact on the landmark peaks and foothills zone relates to a small part of a wider lone mountains landscape character area including Bienn a Mhadadh, and Ben Graim Beg and Mor, to the south of the application site.

3.59 There would be areas of limited localised, but significant, impact where turbines and associated development would be within 1 kilometre of the identified landscape character zones. The height of the turbines would, to some extent, reduce the impression of the open horizontal expanse of the restored peatland/moorland, and distract from the River Strathy valley form. However, this would again only be for a limited area. Overall, I consider that the localised landscape impact of the proposed development would not overly diminish or harm the landscape characteristics of the sweeping moorland or lone mountains landscape character areas (or appreciation of these). The impacts would be limited to very distinct sub-landscapes of the overall landscape character areas.

National scenic areas

3.60 The proposed turbines would be visible from the west facing slopes of Ben More Assynt within the Assynt-Coigach NSA and Foinaven within the North-West Sutherland NSA. However, the proposed turbines would only be visible for a limited extent within the NSAs, particularly from the summits of these hills. There would be limited interaction between these slopes and the proposed development as seen in the zone of theoretical visibility mapping. Furthermore, the considerable distance of over 35 kilometres between these slopes and the application site would mean that any visibility would be distant and the proposed development would be a small component of the overall landscape.

⁹⁵ [Landscape Character Areas – Figure 8.2 – 2007 Environmental Statement, Volume 3. \[CD 2.3\]](#)

3.61 On a sunny day with clear visibility I climbed to the summits of both An Caisteal and Beinn Bheag on Ben Loyal located within the Kyle of Tongue NSA. I agree with objectors that from the summits the proposed turbines would be visible to the west. I also note that the combination of the constructed Strathy North Wind Farm, the proposed Strathy Wood Wind Farm, and the proposed wind farm would provide a wind turbine array with a north-south axis extending some 15 kilometres inland which would be visible from these summits. Furthermore, I noted from these elevated positions that the proposed turbines would be seen in the context of other wind turbines positioned at Bettyhill, Forss and Bailliehill. Although the proposed turbines would be visible, and would be seen in combination with other turbines, at over 15 kilometres away they would be a distant and a small component of the overall sweeping moorland landscape. Other panoramic and spectacular views from An Caisteal and Beinn Bheag would contain no turbines from these summits. The impact would be even less from the summit of Ben Hope located some 10 kilometres east of Ben Loyal and some 25 kilometres from the application site.

3.62 Following my site visits to the application site and the surrounding area I consider that the proposed development would have very limited impact on the appreciation of the NSAs described above. The proposed development would do little to distract from the scenic qualities, appearance and character of the Kyle of Tongue, Assynt-Coigach, and North-West Sutherland National Scenic Areas. Therefore, the impact on NSAs would be acceptable.

Special landscape areas

3.63 I visited Strathy and its surrounding landscape, and climbed to the summits of both Ben Griam Beg and Ben Griam Mor, in clear conditions. Again, I agree with the findings of the environmental assessments that there would only be a slight impact on the Farr Bay, Strathy & Portskerra Special Landscape Area (SLA) to the north of the application site and a moderate impact to the Ben Griam & Loch nan Clar SLA to the south of the application site. The proposed turbines would be visible from some locations to the north where the constructed Strathy North Wind Farm would be seen in the foreground. Although the density of turbines would increase there would be limited additional impact to the landscape qualities of the Farr Bay, Strathy & Portskerra SLA, particularly as the primary landscape characteristic is that of the northern coastline and not the inland moorland (albeit that the contrast between the two is of interest).

3.64 The north facing slopes and summit of both Ben Griam Mor and Ben Griam Beg would have unobstructed views of the proposed development some 8.5 kilometres from the nearest proposed turbine. Part of the charm of both the Ben Griam summits is their uniqueness in providing elevation in an area of extensive moorland. The hills are prominent features in the landscape and provide panoramic views from the summits (previously attractive for defence but similarly attractive now for recreation). The proposed turbines would introduce a further vertical and contrasting feature in the landscape which could, to some extent, compete with the Ben Griams. I also consider that the removal of the commercial forestry (which introduces a stark contrast to the off-white proposed turbines shown in the visualisations) and restoration to the muted open moorland landscape would contribute to an improved composition and lessen the landscape impact of the proposed turbines. Nevertheless, I find that the proposal would have a significant impact on the landscape qualities of the Ben Griam & Loch nan Clar SLA.

Roads, tracks and trails

3.65 In relation to the main transport corridors in the surrounding area I agree with the applicant that there would be limited impacts along the Lairg to Tongue (A836); Tongue to Melvich (A836); and Helmsdale to Melvich (A897) roads. Occasional glimpses to the proposed turbines would be possible along these routes. However, when travelling along these routes the distance to the proposal, together with intervening and obstructive landscape features, and the surrounding scenic landscape would mean that there would be limited visual impact to drivers and passengers.

3.66 There would be a visual impact from the scenic viewpoint at Bettyhill⁹⁶. At this point the nearest proposed turbine would be some 9.1 kilometres away. The actual visual impact would be less than originally proposed as a result of changes in the numbers of turbines proposed with more prominent (and closer) turbines removed. Although the turbines would occupy a relatively small proportion of the overall landscape composition from the viewpoint, they would obscure both Ben Griam Beg and Ben Griam Mor. Consequently, the proposed turbines would reduce the scale of the landscape observed from this position and a viewer's attention would be drawn to the turbines rather than the sweeping moorland vista. Therefore, I agree with the conclusion that the visual impact at this location would be significant.

3.67 The blades of the proposed turbines would be visible at a distance of 9.7 kilometres from the A836 near Borgie⁹⁷; and the tips would be visible from Achargary along the B871⁹⁸. As these are main roads in the area most vehicles would be passing through these locations. Due to the distance to the proposed turbines, the intervening landscape, and the transient nature of travel through these locations I agree with the applicant that although there would be a visual impact it would not be significant.

3.68 Nothing suggests that there would be any negative impact from the proposed development on people travelling/visiting the Strathnaver Trail. Similarly, there would be only a limited impact on those few travelling along Hill Track 344 (albeit a significant visual impact would occur on the approach to and if someone was staying at the Lochstrathy Bothy)⁹⁹. It is acknowledged by the applicant, and I agree, that there would be some significant visual impacts from the Forsinard Trail for limited sections.

Summits

3.69 As considered above in the landscape context I find that, although visible from some slopes and summits because of the distance to the proposed development, the proposal would not have any significant visual impact from Ben Hope, Ben Loyal, Ben More Assynt, or Foinaven. Furthermore, I agree with the applicant that due to the extensive distance to the proposed turbines there would be very limited visual impact from the Ben Klibreck Munro over 20 kilometres away.

3.70 There would be a significant visual impact from the summits of both Ben Griam Mor and Ben Griam Beg¹⁰⁰ where the wind turbines would be immediately visible in the open

⁹⁶ Viewpoint 9, figures 18-19, 2014 Further Information Report. [CD 5.1]

⁹⁷ Viewpoint 3, figures 10-11, 2014 Further Information Report. [CD 5.1]

⁹⁸ Viewpoint 5, figures 14-15, 2014 Further Information Report. [CD 5.1]

⁹⁹ Viewpoint 8, figures 16-17, 2014 Further Information Report. [CD 5.1]

¹⁰⁰ Viewpoint 1, figures 8-9, 2014 Further Information Report. [CD 5.1]

moorland context when emerging onto the summits and looking north. I appreciate that the turbines would only occupy part of the panoramic views; that their impact would lessen as the application site was restored to peatland (as the contrast against moorland would be less than that shown in the visualisations against the green forestry); and that the reduction in turbines would reduce the extent of the impact compared to that of the original proposal. However, the visual impact would remain significant for people climbing these hills.

Residential / settlement impact

3.71 There would be no inhabited individual residential properties in close proximity to the proposed development where occupants would incur any visual impact. The proposed turbines would be visible from some locations to residents of, and visitors to, the nearest settlements of Strathy¹⁰¹ and Melvich¹⁰². However, due to the limited locations where the turbines would be visible, and the presence of the Strathy North Wind Farm, I agree with the applicant that the visual impact from both these settlements would be minimal.

3.72 Temporary visitors to the Lochstrathy Bothy would view the proposed turbines in very close proximity (within 200 metres). Consequently, for those visiting that location would be a significant visual impact.

Northern estates

3.73 My findings above point to there being no significant landscape or visual impact from Ben Loyal. I agree with the applicant that there would be very few instances where the proposed turbines would be visible from the Ben Loyal, Kinloch and Hope and Melness estates. This considered with the extensive distance between these estates and the proposed turbines leads me to conclude that there would be no significant visual (or landscape) impacts arising from the proposal on these northern estates.

Cumulative landscape and visual impact

3.74 In relation to the proposed development there would be some sequential impacts along some roads where a series of wind turbine developments would be visible in sequence. This would be particularly the case when travelling along the A836 between Tongue and Thurso passing the two Bettyhill turbines, then Strathy North Wind Farm (with Strathy Wood – potentially – and Strathy South wind farms further inland), then Bailliehill and Forss wind farms on either side of the road. However, due to the distance between each of these developments, the intervening and extensive landscape, and existing presence of the Strathy North Wind Farm (which would be seen in the foreground of many views) I consider that any sequential landscape and visual impact would not be significant.

3.75 The locations where significant landscape and visual impacts would occur as a result of the proposed development (the summits of the Ben Griams; the Bettyhill scenic viewpoint; the Forsinard Trail; and Hill Track 344 and Lochstrathy Bothy to a lesser extent) would be further influenced by the presence of both the Strathy North and Strathy Wood wind farms. The combination of the three would (as expressed earlier) extend the north-south array of turbines from close to Strathy to some 15 kilometres inland. From the north and south this would have the effect of increasing the density of turbines. From the east and west the effect would be to elongate the presence of the turbines within the landscape.

¹⁰¹ Viewpoint 4, figures 12-13, 2014 Further Information Report. [CD 5.1]

¹⁰² Viewpoint 13, figures 20-21, 2014 Further Information Report. [CD 5.1]

Furthermore, the combination of these three wind farms would increase the visual impact from the A836 near Borgie to a significant level as turbines would become more prominent along the skyline. From these locations I consider that there would be significant landscape and visual impacts.

3.76 Scottish Natural Heritage's response suggests that there would be limited capacity within the area to accommodate further wind turbine development than that proposed. I am not in a position to address that matter as each proposal should be considered on its own merits depending on the circumstances presented at that time.

Summary of findings

3.77 The application site is positioned well in relation to the surrounding topography: a u-shaped extended valley in which the proposed turbines would be relatively screened from much of the surrounding area. The application site is not located in an area subject to any landscape designation. There would be little impact on national scenic areas. Significant localised landscape impacts would occur, as would other significant landscape impacts from a limited number of locations, including within one special landscape area. There would be no significant landscape or visual impact from the identified northern estates. There would be very limited impact on residences. Again, the significant visual impacts identified would be limited to a few locations. The combination of the proposed development with the constructed Strathy North and proposed Strathy Wood wind farms would further emphasise existing significant landscape and visual impacts from various locations.

CHAPTER 4: WILD LAND

Evidence relating to wild land

4.1 Key evidence relating to wild land includes:

- Chapter 8 (landscape character)¹⁰³ and associated figures¹⁰⁴ within the 2007 ES.
- Chapters A8 (landscape character)¹⁰⁵ and associated figures¹⁰⁶ of the 2013 ES Addendum.
- Written submissions in response to a procedure notice¹⁰⁷ from:
 - The applicant^{108 109}.
 - Scottish Natural Heritage¹¹⁰.
 - Ms Alexandra Patience (a local objector)^{111 112}.
 - The John Muir Trust¹¹³.
 - Wildland Limited Northern Estates¹¹⁴.
- Responses to the applicant's written submissions on landscape and visual impact (advertised as further environmental information^{115 116}) from:
 - The John Muir Trust and Wildland Limited Northern Estates (combined)¹¹⁷.
 - Scottish Natural Heritage¹¹⁸.
 - Mr Peter Batten (an individual objector)¹¹⁹.

Scope of evidence

4.2 The 2007 ES included an assessment of indirect impacts upon wild land and the scope of the wild land assessment was agreed with Scottish Natural Heritage. An assessment of the impact of the proposal on three Search Areas for Wild Land (SAWLs), located approximately located 13 km to 19 km from the application site, was included. No objections were raised by statutory consultees in relation to the wild land assessment.

4.3 Within the 2013 ES Addendum a wild land assessment was carried out, in consultation with Scottish Natural Heritage which advised to continue to use the SAWL

¹⁰³ [Chapter 8 of 2007 ES](#). [CD 2.2]

¹⁰⁴ Volume 3 of the 2007 Environmental Statement. [CD 2.3]

¹⁰⁵ [Main Report of the 2013 ES Addendum](#). [CD 4.2]

¹⁰⁶ Volume 3 of the 2013 ES Addendum. [CD 4.3]

¹⁰⁷ [Note of pre-examination meeting \(procedure notice 1\)](#).

¹⁰⁸ [Applicant's response dated 9 March 2015](#).

¹⁰⁹ [Applicant's rebuttal dated 23 March 2015](#).

¹¹⁰ [Scottish Natural Heritage response dated 9 March 2015](#).

¹¹¹ [Ms Patience written response dated 9 March 2015](#) and [supporting photograph](#).

¹¹² [Ms Patience's rebuttals dated 31 March 2015](#) and [dated 1 April 2015](#).

¹¹³ [John Muir Trust written response dated 9 March 2015](#).

¹¹⁴ [Wildland Limited Northern Estates response dated 9 March 2015](#).

¹¹⁵ [Correspondence confirming FEI requirement and advertisement](#).

¹¹⁶ [Correspondence confirming re-advertisement of Further Environmental Information](#).

¹¹⁷ [John Muir Trust and Wildland Limited Northern Estates response dated 29 May 2015](#).

¹¹⁸ [Scottish Natural Heritage response dated 28 May 2015](#).

¹¹⁹ [Mr Batten's response dated 13 April 2015](#).

mapping as the basis for the assessment (and not draft Core Areas of Wild Land identified by Scottish Natural Heritage in 2013). The assessment attracted no objections from statutory consultees or others.

4.4 In June 2014, Scottish Natural Heritage identified 42 wild land areas considered to represent the most significant areas of wild land character in Scotland and these areas are therefore considered to be of national importance. These wild land areas do not constitute designated landscapes but are recognised within Scottish Planning Policy (2014) as areas of significant protection within the wind farm development spatial framework. Where a proposed wind farm is situated outwith a wild land area, the effects on wild land or wilderness qualities may be a relevant consideration.

4.5 At the pre-examination meeting it was agreed that the matter of wild land could be addressed by means of written submissions. The note of the pre-examination meeting (procedure notice 1) requested parties to provide information on areas of contention, as follows: “whether the impact of development on wild land (Ben Loyal and Halladale) would be acceptable.”

4.6 In response to procedure notice 1, the applicant provided a detailed wild land review (March 2015) which was considered to constitute further environmental information as per regulation 13 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (as amended). Consequently, the review was advertised with a statutory period given for comments.

4.7 The submitted wild land review took account of the agreed Wild Land Areas (no longer search or core areas) identified by Scottish Natural Heritage. It included an assessment of the proposed 39 wind turbines on both Wild Land Area 38 (Ben Hope-Ben Loyal, located to the west of the development) and Wild Land Area 39 (East Halladale Flows, located to the east of the development). The review involved the assessment of mapping produced by Scottish Natural Heritage for the Mapping Scotland’s Wilderness Project and also knowledge gained through site survey, local knowledge and photography during the assessment work for the original 2007 ES and 2013 ES Addendum.

The applicant’s position

4.8 The 2007 ES included a wild land assessment (based on indicative wild land search areas prepared by Scottish Natural Heritage). It concluded that with the exception of the high ground around Ben Loyal the impacts on wild land resources would be slight adverse to negligible, and not considered to be significant.

4.9 The 2013 ES Addendum identified a medium magnitude of change to a localised study zone (Ben Hiel) within the larger Ben Hope Massif wild land search area, which would result in a moderate adverse impact. “Apart from this localised area however, impacts on the wild land resource have been assessed as either slight adverse or negligible and, therefore, are not considered to be significant.” Operational wind farms (and Strathy North) were considered in relation to cumulative impact on wild land. Strathy North was consented in 2011 (now under construction) and was anticipated to have a slight adverse impact on the Ben Hope Massif wild land search area. Once constructed, it is argued that the Strathy North wind farm would reduce the perceptual qualities which contribute to the Ben Hiel area wild land qualities and reduce the magnitude of change arising from the Strathy South

proposal. The impact of the Strathy South proposal would therefore be less than moderate adverse (not significant).

4.10 In response to the procedure notice the applicant, following current Scottish Natural Heritage guidance, provided a review of wild land within 40 km of the application site. Five wild land areas were identified: Ben Klibreck – Armine Forest (35); Causemire – Knockfin Flows (36); Foinaven – Ben Hee (37); Ben Hope – Ben Loyal (38); and East Halladale Flows (39). The 2013 ES Addendum considered that the effects on wild land areas 35 and 36 would not be significant. Wild land area 37 falls on the edge of the 40 km radius from the application site and at a greater distance than affected parts of wild land areas 35 and 36. Therefore, it is considered very unlikely that the proposed wind farm would have any significant effect on this wild land area.

4.11 The applicant’s review anticipates that due to the distance of both remaining wild land areas (38 and 39) from the application site that the effects of construction, operation and decommissioning would remain the same throughout. The review focusses on operational effects. Other nearby wind farms (Strathy North located 3 km north of Strathy South, and under construction; and Baillie wind farm located some 5 km north-east of the East Halladale Flows wild land area, and operational since 2013) are identified.

4.12 The review identifies that the Ben Hope – Ben Loyal wild land area (38) covers some 220 square kilometres to the south and west of the Kyle of Tongue and north of Altnaharra; and includes the prominent peaks of Ben Hope (Munro) and Ben Loyal (Corbett)¹²⁰. It is considered by the applicant to have an overall medium wild land quality. In relation to the impact of the proposed development the review suggests that “Strathy South would combine with Strathy North to create a joint cluster of wind turbines within the eastern landscape context. These would be relatively distant and small especially when seen as a part of the large-scale expansive vistas obtained.” There is potential for localised significant effects in discreet parts of the wild land area. It is not considered that the proposal would produce significant effects on the Ben Hope – Ben Loyal wild land area as a whole.

4.13 The East Halladale Flows wild land area (39) is identified as being north of Forsinard and south of Melvich extending west from Strath Halladale towards the railway line. It covers an area of approximately 160 square kilometres¹²¹. It is characterised by undulating moorland and low rounded hills in its western part leading to expansive peatland flows in its eastern half. It is considered by the applicant to have an overall medium-low wild land quality. In terms of potential impact the review considers that “the effect of Strathy South would be the extension of wind turbines to Strathy North within the western landscape mid-ground context between the wild land area and the western mountains where coniferous plantation currently occurs, albeit as part of a wide expanse of large-scale open landscape.” There would be potential for localised significant effects to discreet areas of the East Halladale Flows wild land area. However, the impacts are not considered to produce significant effects on the area as a whole.

Scottish Natural Heritage’s position

4.14 Scottish Natural Heritage provided advice on the anticipated effects of the proposal on wild land in responses from 2007, 2013 and 2015. Scottish Natural Heritage does not

¹²⁰ [For location see figure 1 of Wild Land Review \(March 2015\).](#)

¹²¹ [For location see figure 1 of Wild land Review \(March 2015\).](#)

object as it considers that the effects of the Strathy South Wind Farm would not significantly affect the integrity or, or the qualities of wildness, in the East Halladale Flows wild land area (39). It has not, and does not, object to the proposal on the grounds of its anticipated effects on qualities of wildness or on that wild land area. In January 2015, it responded again that “there will be some additional adverse effects on this wild land area as a result of the Strathy South proposal increasing the presence and prominence of obvious human artefacts. However, when considering the additional cumulative effects on this wild land area from surrounding wild farms (including the operational Baillie and consented Strathy North, together with applications at Limekiln and Strathy Wood) we do not consider that the additional effects as a result of the Strathy South wind farm will significantly adversely affect the qualities of the East Halladale Flows Wild Land Area”.¹²²

4.15 Furthermore, in responding to further environmental information it confirmed that “in our view, the effects of the proposal would not significantly adversely affect the wild land qualities of the Ben Hope – Ben Loyal wild land area (38) or any other wild land area”.

The John Muir Trust’s position

4.16 The John Muir Trust asserts that the wild land assessment by Scottish Natural Heritage needs to be updated to reflect national policy. The Trust would have expected Scottish Natural Heritage to find that increasing the cumulative effects on the East Halladale Flows Wild Land Area would be a serious concern (as was the case in Limekiln wind farm¹²³).

4.17 An updated/comprehensive assessment and response on scheme specific cumulative wild land effects is needed from both the council and Scottish Natural Heritage as a result of updates to national policy and advice.

4.18 The Trust asked Dr Steve Carter of the Wildland Research Institute at Leeds University to produce a plan showing the combined visibility of Strathy South and Strathy North wind farms. The visual effects extend to all four nearby wild land areas (35, 36, 38 and 39). This illustration does not consider other relevant wind farms still in the consenting process – Strathy Wood, Sallachy, Gelncassley, and Greag Riabhach. It is clear that existing mapped wild land requires “strengthened protection”. The combination of Strathy North and Strathy South wind farms would give rise to significant adverse landscape and visual effects and significant adverse effects on wild land. It is not credible to assert that the proposed turbines some 16 km away would be relatively distant and small.

4.19 The applicant’s response to the procedure notice concedes that there would be significant effects on certain views or areas of wild land. The Trust questions the methodology used in the applicant’s wild land review (March 2015). It is understood that the variation in quality of the wild land within a wild land area is irrelevant when considering effects. It is the whole of the wild land area that is protected. Further, although suggested by the applicant, there is no integrity test for wild land effects. The impact on wild land is considered to be contrary to national policy.

Wildland Limited Northern Estates’ position

¹²² [Scottish Natural Heritage response dated 8 January 2015](#). [SNH R-05]

¹²³ Note: the Limekiln Wind Farm has been refused consent by Scottish Ministers.

4.20 Wildland Limited Northern Estate's position follows that of the John Muir Trust set out above.

Ms Patience's position

4.21 Further to Ms Patience's landscape and visual impact concerns, she suggests that the proposal would seriously compromise the ability to connect people with Scotland's last Great Wilderness.

Mr Batten's position

4.22 Attention is drawn to Mr Batten's position summarised in the landscape and visual impact chapter above (see paragraph 3.55).

Reporter's findings

4.23 Wild land policy in Scotland has developed since the proposed development was submitted in 2007 and subsequently modified. Scottish Natural Heritage and the Highland Council have been involved in the scope of the assessments conducted by the applicant and have provided responses on the conclusions reached in relation to wild land. Both these parties have also been involved in further written submissions on wild land as part of the public inquiry process. In such circumstances, there is no reason to require further re-assessment of the conclusions on wild land impacts by these parties.

4.24 I can find no reference to an "integrity test", where either the quality of a part of a wild land area or a percentage of an area of wild land are assessed against that affected by development, in national policy.

4.25 Scottish Planning Policy advises that development may be appropriate within areas of wild land identified in the 2014 Scottish Natural Heritage mapping in some circumstances (although the document considers that there is "little or no capacity to accept new development" in these areas¹²⁴). In the current proposal, no development is proposed within an area of wild land.

4.26 Within the landscape and visual impact chapter I acknowledge that the proposed turbines, together with those proposed at Strathy Wood and those under construction at Strathy North, would be visible from the summits and slopes of Ben Hope, Ben Loyal, Ben Klibreck and Foinaven. These locations are within the Foinaven – Ben Hee (area 37); Ben Hope – Ben Loyal (area 38); and Ben Klibreck-Armint Forest (area 35) wild land areas. There would also be discrete locations within the wild land areas at Causeymire-Knockflin Flows (area 36) and East Halladale Flows (area 39) where the turbines would be visible.

4.27 I agree with the applicant's conclusion that the proposed development would not harm the character or qualities of these wild land areas. The application site is some considerable distance from each of these areas, with intervening landscape features, meaning that in the limited instances where turbines would be visible they would appear distant and as a small component of the overall landscape.

¹²⁴ Scottish Planning Policy, Scottish Government, paragraph 200. [CD_7.2]

4.28 It is also significant that many of the locations where the proposed development would be visible from wild land areas currently include views to the Strathy North Wind Farm, Baillie Wind Farm, Forss Wind Farm and the two turbines at Bettyhill. I understand the concerns of the John Muir Trust in relation to an incremental creep of wind turbines visible from wild land areas. However, in this instance I do not consider that the addition of the turbines proposed would introduce significant adverse landscape and visual impacts to the detriment of wild land areas. My findings on this issue are supported by Scottish Natural Heritage's lack of objection on this matter.

Summary of findings

4.29 The proposed development would be visible from some limited parts of mapped wild land areas. However, the discrete nature of these views; the distance to the turbines; and the presence of existing wind turbine development mean that there would be no significant adverse impact on areas of wild land.

CHAPTER 5: IMPACT ON ORNITHOLOGY

Evidence relating to the ornithological impact

5.1 Key evidence relating to ornithological impacts includes:

- Inquiry statements from the applicant¹²⁵; SNH¹²⁶; and RSPB Scotland¹²⁷.
- Topic papers from SNH¹²⁸ and RSPB Scotland¹²⁹.
- Precognitions from the applicant¹³⁰; SNH^{131 132}; and RSPB Scotland¹³³.
- Responses to further environmental information from SNH¹³⁴ and RSPB Scotland¹³⁵.
- Legal submissions from the applicant¹³⁶; SNH¹³⁷ and RSPB Scotland¹³⁸.
- Written submissions (on hen harrier and red-throated diver) from the applicant¹³⁹; SNH¹⁴⁰ and RSPB Scotland¹⁴¹.
- Closing submissions from the applicant; SNH and RSPB Scotland.

Scope of evidence

5.2 At the pre-examination meeting it was agreed to hold inquiry sessions on ornithological matters. Inquiry statements were required with the inquiry session initially arranged for March. However, due to the requirement to advertise further environmental information related to ornithological matters the inquiry session was re-arranged and held in June 2015.

5.3 Representations, see paragraph 1.18, commented that the proposal would cause minimal environmental impact, while others expressed the following objections:

- The proposal would have a detrimental impact on hen harrier.
- There would be a negative impact on Caithness and Sutherland Peatlands SPA qualifying species, namely: golden eagle; hen harrier; red-throated diver; merlin; European golden plover; dunlin; common greenshank; and black-throated diver.
- There would be a negative impact on other bird species, namely: whooper swan; white-tailed eagle; osprey; fieldfare; redwing; red-backed shrike; brambling; common crossbill; peregrine falcon; and snow bunting.

¹²⁵ Applicant's inquiry statement. [Not published online due to sensitive data.]

¹²⁶ SNH's inquiry statement. [Not published online due to sensitive data.]

¹²⁷ RSPB Scotland's inquiry statement. [Not published online due to sensitive data.]

¹²⁸ [SNH Topic Paper.](#)

¹²⁹ [RSPB Scotland Topic Paper.](#)

¹³⁰ Applicant ([Dr Dargie](#); [Dr Zisman \(hen harrier\)](#); [Dr Zisman \(habitat management\)](#); [Martin Scott \(greenshank\)](#); [Martin Scott \(red-throated diver\)](#); [Dr Grant](#)) Precognitions.

¹³¹ [SNH \(Dr Greg Mudge\) Precognition.](#)

¹³² [SNH \(Dr Andrew Douse\) Precognition.](#)

¹³³ [RSPB Scotland \(Dr Alan McCluskie\) Precognition.](#)

¹³⁴ [SNH response dated 28 May 2015.](#)

¹³⁵ [RSPB Scotland response dated 29 May 2015.](#)

¹³⁶ [Applicant's legal submission rebuttal.](#)

¹³⁷ [SNH's legal submission response.](#)

¹³⁸ [RSPB Scotland's legal submission.](#)

¹³⁹ [Applicant's responses dated 16 July 2015](#) and [26 June 2015.](#)

¹⁴⁰ SNH response dated 14 July 2015. [Not published online due to sensitive data.]

¹⁴¹ RSPB Scotland's response dated 14 July 2015. [Not published online due to sensitive data.]

Applicant's position

5.4 As a preliminary point, before addressing issues of relevance to the weighing of evidence, while acknowledged that Mr McKenzie appeared on behalf of both SNH and the Highland Council (THC) at the inquiry, throughout these submissions reference is made only to SNH. Although THC has the status of statutory objector, there were no witnesses from THC and its policy objection depends upon SNH making good its objection in evidence. This is clear from THC's letter of objection of 16 June 2014 to the Energy, Consents and Deployment Unit, and also from the terms of the covering email that was sent with the objection. In the letter it is stated that "the Committee determined that the Council's response to this consultation was 'to object to the application on the basis of the concerns highlighted by Scottish Natural Heritage, thereby the proposal was contrary to the Council's Highland-wide Local Development Plan, Policies 57 (Natural, Built and Cultural Heritage) and 67 (Renewable Energy)'".

5.5 With the benefit of hindsight, it was submitted that it was apparent that prior to the commencement of the inquiry session I had correctly identified the main issues of controversy and of apparent concern to SNH and RSPB Scotland. In procedure notice 3 (revised), there are listed the topics upon which I wished parties to focus in their written evidence, and in examination in chief and cross-examination at the inquiry session. Once again this resulted in the debate in evidence at the inquiry session focussing on the matters that underlie the objections from SNH and RSPB Scotland (hereinafter referred to collectively as "the objectors" where appropriate). The SNH objection has been maintained in respect of two species (red-throated diver and greenshank), and the RSPB Scotland objection relates to both those species and an additional two species that are not of concern to SNH (hen harrier and wood sandpiper). While the inquiry session demonstrated that the topics identified in the procedure notice, do indeed underlie the objections based on perceived ornithological impacts, the general observation that can be made at the outset of these submissions is that the main area of contention was the degree of certainty that can be afforded to predictions of the potential impacts on these species. In that regard, it is suggested by the objectors that in relation to the issues identified that there is underlying uncertainty in relation to particular species in the environmental information and inquiry documents produced by the applicant.

5.6 RSPB Scotland makes much of the fact that it has been consistently opposed to the project since it was first mooted in 2003, before it even had sight of the considerable environmental information that has been collated over an 11 year period. This consideration does not weigh in favour of RSPB's position but rather weighs against it because it serves to confirm that there has been no objective consideration of the applicant's environmental information.

5.7 A considerable array of highly technical productions has been submitted, and there have been in depth technical and scientific discussions on matters in relation to surveys, collision risk modelling, species' behaviour and habitat management. The number of issues and degree of alleged uncertainty varies depending upon the species under consideration and the attitude of the particular objector.

5.8 In addressing the central issue of whether the predicted impacts in respect of each of the four qualifying species must necessarily lead to the conclusion that the grant of the statutory consents to authorise the construction and operation of the proposed wind farm

would result in a breach of Scottish Ministers obligations to protect the qualifying species of the Caithness and Sutherland Peatlands Special Protection Area (“the SPA”).

5.9 Before embarking upon this process, given the centrality of the concept of “certainty” for the consideration of legal and ornithological points of dispute, it is considered helpful to summarise the nature/categories of resources/evidence available to establish the prerequisite level of certainty upon which Scottish Ministers may depend. All of the different types of evidence relied upon by the applicant have been referred to by the applicant’s witnesses during the inquiry and in their written evidence, and, underpin their conclusions. The nature and sources of evidence that provide the applicant’s witnesses with sufficient confidence in their prediction of impacts are from:

- Published/peer-reviewed literature.
- “Grey” literature.
- The ability to draw on first-hand practical experience both in terms of knowledge of the site and use of the site by the qualifying species, and, the design and implementation of habitat management plans.
- The applicant’s proven ability and track record in resourcing the successful implementation of mitigation measures and habitat management plan in fulfilment of planning obligations, combined with knowledge of the specific mechanisms that need to be in place (through conditions) to ensure there is independent external over-sight of management, with sufficient flexibility to ensure the habitat management plan achieves the necessary outcomes (for example, the ability to respond to monitoring results, new evidence or management requirements).

5.10 In relation to the first category of evidence neither SNH or RSPB’s witnesses suggested that the applicant’s ornithological evidence omits any published scientific evidence of significance, which might lead to a different expert opinion to that stated in evidence by the applicant’s experts. Equally, there is no suggestion that the applicant has been anything other than exhaustive in its attempts to identify, review and take account of the full range of grey literature. In fact, considerable effort has been made to avail the inquiry with all relevant post-construction monitoring results that it has been feasible to extract and produce that is of relevance to the qualifying species in dispute. Evidence from post-construction monitoring provides an important source of grey literature and greatly enhances an understanding as to the interaction of certain species with wind turbines. In that regard, it should be appreciated that the applicant has attempted to furnish the inquiry with all relevant information from constructed and operating wind farms that it has been able to access, and that no stone was left unturned to bring relevant evidence forward, right up to the inquiry, including evidence of red-throated diver breeding adjacent to Strathy North Wind Farm, which has been under construction.

5.11 The latest post-construction monitoring results from Causeymire Wind Farm could not be provided because SNH were not amenable to the applicant’s request to submit this newly released greenshank-related post-construction monitoring data. While the information was not produced until the start of the inquiry, it was explained that the helpful agreement of RWE Innogy (Causeymire’s operator) had only been secured for the release and production of this new information. Because the applicant had adopted an attitude of providing to the inquiry such relevant evidence that could inform judgement whenever it became available, SNH’s unwillingness to allow this 10-year post-construction dataset to be submitted is disappointing; not least because it relates to the same SPA as Strathy South. Furthermore, as SNH participates in the wind farm’s Habitat Management Steering Group

(and has done since its inception in 2004), this position was frustrating for the applicant, given the emphasis SNH places on the “independence” of evidence and the fact that it must have been aware of the existence of the data.

5.12 Nonetheless, the applicant acknowledges the commendable advances in scientific understanding that have been achieved through all parties bringing into the public domain important new evidence, by presenting to the inquiry peer reviewed and grey literature. Whilst there are obviously matters in dispute, primarily on the level of certainty that can be taken from this evidence, a number of notable advances have been made in terms of scientific knowledge. Not least the proposed modification to the avoidance rate for red-throated divers and the robust distance detection adjustments for greenshank, and the habitat suitability modelling for this species. Many of these findings will go on to be published, and indeed, it will not be a surprise to know, further important data have emerged since the inquiry session closed over the 2015 breeding season, with further monitoring at Achany, Strathy North, South, and Griffin, being examples. While this 2015 data has not been produced, it should be acknowledged that the information available to the applicant from its post-construction monitoring at operational wind farms has been made available to the applicant’s witnesses. This was apparent from the discussion in the RPS inquiry reports of experience elsewhere, and, the references to experience at other sites that were provided by all three of the applicant’s witnesses during their evidence at the inquiry session.

5.13 The significance of much of this peer reviewed and grey literature that is relied upon by the applicant’s witnesses is that it is informed by first-hand experience possessed by either the applicant and/or the applicant’s expert witnesses who have given evidence at the inquiry session. In terms of the first-hand experience that either a party to the inquiry or a witness can lay claim to, there are some important points to be made in relation to the applicant’s evidence. It is highlighted from the evidence of the applicant’s experts, the breadth and nature of first-hand experience on which the applicant’s witnesses were able to draw. In their evidence, both Mr Scott and Dr Zisman reflected on their respective years of experience determining survey requirements for, and assessing the sensitivity of, sites for wind farm developments. Both Dr Zisman and Mr Scott have the benefit of undertaking these duties working for RSPB as Conservation Officers for seven years each, and dealing with upland wind farm applications within and adjacent to other peatland SPAs.

5.14 Through subsequent roles as professional ornithologists, this first-hand experience has been further supplemented by direct and prolonged participation in post-construction bird monitoring at operational wind farms for a range of wind farm developers. As can be appreciated, through delivering over 10 years continuous Ecological Clerk of Works inputs for wind farms under construction, including Strathy North, Dr Zisman and the other ornithologists at RPS who are involved in this work, bring additional significant first-hand insights in the avoidance of disturbance to breeding birds during wind farm construction. Moreover, this is experience gained in the same area as the proposed Strathy South Wind Farm site, involving the same SPA and the same qualifying species. Mr Scott has emphasised through his report the considerable survey effort at Strathy South over the years, and it is self-evident that the evidence of all of the applicant’s witnesses who gave evidence on ornithological issues was informed by that experience in and around the application site¹⁴².

¹⁴² RPS (2015) An Assessment of Survey Effort at Strathy South Wind Farm: Concluding ‘Beyond Reasonable Doubt’ Compared to Other Developments. Unpublished Report. [SSE_11.133]

5.15 While Dr Grant is currently employed as the Principal Ornithologist at Royal Haskoning DHV, over the period 2011 to 2014, Dr Grant worked in consultancy with RPS. Over that period of time he was leading and contributing to a wide range of projects that involved the assessment of potential effects on SPAs from, primarily, renewable energy development. It was over that period of time that the ES addendum was produced and the Further Environmental Information in respect of the reduction in turbine numbers to 39. Dr Grant explains in his precognition that prior to joining consultancy in 2011, he worked in RSPB's Conservation Science Department for over 18 years, where he was a Principal Conservation Scientist leading its UK upland research. Of direct relevance to his evidence to this inquiry is the applied research that he carried out on declining bird species in, amongst other areas, the Flow Country. Having regard to the nature of the objection from SNH and RSPB Scotland as to the collision risk to greenshank, the applicant places particular emphasis on Dr Grant's expertise in survey and experimental design and in advanced statistical analysis and modelling techniques.

5.16 Dr Grant is a widely published peer-reviewed research scientist and a number of his co-authored reports were produced to the inquiry. Neither SNH nor RSPB Scotland challenged his expertise on moorland breeding birds, generally, or more specifically, in relation to breeding waders such as greenshank. Indeed, to the credit of Dr McCluskie during his evidence-in-chief on the last day of evidence in relation to the weight to be attributed to the Furness and Trinder alternative collision risk modelling, he entirely unexpectedly volunteered to the inquiry that he held Dr Grant in high regard, considered him to have an excellent publication record and that he regarded him as "a very serious scientist".

5.17 In contrast, whilst the technical knowledge of both of the objectors' ornithological expert witnesses, Dr Douse and Dr McCluskie for SNH and RSPB respectively, is certainly acknowledged, to their credit both were willing to accept the limits of their practical experience of monitoring wind farm and bird interactions, and absence of experience in relation to wind farm construction itself. It is also submitted that there can be absolutely no comparison as to their level of detailed knowledge of the site, and the use made of the site and the study area by the qualifying species in dispute, when compared to the totality of site visits carried out by RPS personnel, and personally by the applicant's expert witnesses.

5.18 Dr Douse confirmed in cross-examination that prior to preparing his topic paper and precognition for the inquiry, he had carried out five site visits. These site visits were spread over the period from 2013 and March 2015. The three site visits in 2015 were limited to the footprint of the proposed wind farm and buffer area. He advised that on 4 earlier site visits he had visited viewpoints. Dr Douse advised that on all 5 occasions that he visited the site he had experienced difficulty locating viewpoints and he was not always sure he was at the right location. He acknowledged that the applicant and its advisers had on more than one occasion offered to carry out an accompanied site visit for the purposes of addressing the concerns that SNH had expressed in relation to the vantage point survey, but that on each occasion that offer was rejected. The poor understanding that Dr Douse has in relation to the vantage points affects his ability to appraise properly vantage point coverage. This example from the detailed technical evidence is put forward as this stage of the submission in order to illustrate the point emphasised in this section. The point being that the weight to afford to the judgement of, and evidence from, the different expert witnesses that each of the parties have lead, must necessarily vary depending upon the nature of their own first-hand experience.

5.19 Similarly, Dr McCluskie was not led as an expert witness by RSPB Scotland because he possessed detailed knowledge of the site and its environs; as was apparent from the very limited amount of site specific evidence given by him. The topic paper that he prepared¹⁴³ is made up largely of evidence that is generic in nature and drawn almost exclusively from a range of scientific papers that are not directly related to Strathy South and relate to general issues of methodology; rather than providing a critique of the bespoke methodologies devised by RPS, and Dr Grant, for the assessment work at Strathy South. An example of which being the distance detection correction for the collision risk modelling work carried out for greenshank. The discussion in relation to each of the four qualifying species of concern to RSPB is also made up of large amounts of generic evidence. The “Species Accounts” contain uncontroversial descriptions of the species, their habitat selections, distribution and abundance, legal and conservation status, breeding biology, survival/longevity, flight, and interaction of the particular species with wind farms. At the end of each section dealing with each of the species, there is a short discussion on “project specific issues”, ending with a conclusion that specifies the particular concern that is said to give rise to uncertainty followed by a negative assessment against the conservation objectives.

5.20 In relation to the two species that also form the basis of the SNH objection, greenshank and red-throated diver, the alleged uncertainties from alleged defects in the survey work are essentially the same as some of those relied upon by SNH in its consultation responses maintaining objection to the project. Although RSPB Scotland does not acknowledge that it is dependent upon SNH making good in evidence the grounds of objection set out in its statutory consultation responses, just as THC is, the reality of the situation is that it does not offer up any site specific evidence of its own in respect of greenshank and red-throated divers. This was reflected in the approach taken to the cross-examination of the applicant’s witnesses in relation to these two species. Consequently, if SNH’s concerns and alleged “uncertainties” are considered to be without foundation then RSPB Scotland has no site specific scientific evidence of its own to support the conclusions stated in the Topic Paper and Dr McCluskie’s precognition. It was only in relation to hen harrier and wood sandpiper that RSPB Scotland gave its own evidence. The focus of the cross-examination of RSPB’s witness, reflected the particular area of expertise that he had in relation to hen harrier.

5.21 In closing submission, RSPB Scotland seeks to make much of the fact that the cross-examination of Dr McCluskie was restricted to the qualifying species in respect of which he has acknowledged expertise. Paragraph 4.5 of the closing submissions for RSPB Scotland appears to consider that the decision not to cross-examine Dr McCluskie on other sections of his evidence “on red-throated diver, wood sandpiper, greenshank (excluding modelling) and proposed habitat management” is something that weights in its favour. There are a number of generic issues that were addressed in Dr McCluskie’s cross-examination. His evidence in relation to those issues rendered unnecessary certain more detailed lines of cross-examination.

5.22 Dr McCluskie was questioned by the applicant as to the reasons for RSPB Scotland disagreeing with SNH and challenging its decision in relation to particular developments and/or impacts on different qualifying species. In response, Dr McCluskie agreed that generally RSPB Scotland takes a more precautionary approach to both onshore and

¹⁴³ RSPB Scotland Topic Paper – Dr McCluskie. [RSPB D23]

offshore wind farm development. This concession removed the need to cross-examine Dr McCluske in detail on wood sandpiper. His explanation for this difference in approach was the difference in opinion between the two organisations as to how to approach the issue of “uncertainty”; as submitted through the applicant’s legal submissions there is simply a differing lack of understanding and confidence on the part of both objectors, as to what constitutes “certainty” for the purposes of an appropriate assessment. In the applicant’s submission this is apparent in the conclusions that RSPB Scotland reach in respect of the two qualifying species that RSPB Scotland maintain an objection to but SNH has removed its objection; namely hen harrier and wood sandpiper. As already submitted, there is no site specific scientific evidence that RSPB Scotland has produced that underpins the arguments of Dr McCluskie on greenshank and red-throated diver. In relation to those species, RSPB Scotland is riding on the back of SNH. All of those considerations informed the decision not to cross-examine Dr McCluskie on anything other than hen harrier in that it was accepted that he had a particular expertise in relation to that species.

5.23 Separately, a basic rule of advocacy is not to give a witness the opportunity in cross-examination to give evidence not already provided in written evidence before the inquiry, and, in respect of which no notice has been given. It was submitted that by the stage of cross-examination the opinion of the expert stands or falls on the supporting evidence that has been produced. This is particularly so at a public inquiry where the whole procedure is set up to ensure openness and fair notice. A line of cross-examination that is based upon putting to the witness what is not in the witness’s evidence is potentially an invitation to fill those gaps (depending upon the particular reporter and the dynamics of the inquiry). Hence, this submission deals with those issues not put to Dr McCluskie. Other issues not dealt with in submission are not considered to be material to the outcome of the application.

5.24 On matters of judgement it is relevant that Dr McCluskie’s particular expertise is in relation to raptors and issues related to their persecution. In Appendix 2 of the RSPB Scotland Inquiry Statement, the biography for Dr McCluskie is produced and it is referred to at the beginning of his precognition. From that biography it is apparent that much of his 20 years of experience has been spent on “examining predatory species and human conflict”, which as he confirmed in cross-examination was centred upon the persecution of hen harrier. It is therefore not surprising that his evidence-in-chief focussed on “Betty” the bird from northern England, from which it was apparent he had a particular interest in the persecution of birds from northern England. Persecution of hen harriers was very much the focus of his evidence; which is perhaps not surprising given that he has spent much of the past 20 years examining that issue. He currently has responsibility in relation to the potential impacts on seabirds from offshore wind farms, which is obviously irrelevant to the issues that are of relevance. Dr Douse tells us in his topic paper of his broad experience and involvement in researching the effects of wind farm development and their effects on birds, and collision risk modelling.

5.25 In terms of the applicant’s first-hand experience, it is one of the UK and Ireland’s primary developers of wind farms. Its construction and operational teams therefore bring in-depth first-hand experience of managing the environmental issues that arise from building and operating wind generating stations, and also, through the involvement of specialist professionals, implementing forest removal and, through SSE’s ecological team and consultants, implementing habitat management plans at its operational sites (including Strathy North).

5.26 During the inquiry sessions and in the objectors' legal submissions reference was made to the case of 'Sustainable Shetland v Scottish Ministers and the Viking Energy Partnership', which concerned the proposed Viking Wind Farm on mainland Shetland. As a consequence of the validity of the decision ultimately being upheld by both the Inner House and the Supreme Court, the applicant is now also embarking on the extensive peatland restoration and wader habitat enhancement on Mainland Shetland, enabled by the Viking Wind Farm. The implementation of that section 36 consent and delivery of the habitat management plan will serve to further the applicant's already comprehensive first-hand construction, environmental and operational experience that contributes to the high level of confidence that Scottish Ministers can have in the evidence and scientific opinion provided by the experts when reaching their conclusions as to the nature of the predicted impacts. Equally, when the Scottish Ministers come to undertake their appropriate assessment it is submitted that they too have a sound basis for placing greater weight on the scientific evidence provided by the applicant than the objections from SNH and RSPB Scotland.

5.27 Before turning to the legal submissions, there is comment to be made on a quasi-legal issue that features in both objectors' submissions. The reason to address it ahead of the legal submissions is that it raises two different issues. Both objectors argue that it is for the applicant to demonstrate that there would not be an adverse effect on the integrity of the SPA when assessed against the conservation objectives. For two different reasons it was submitted that this approach is simplistic and fallacious for the purposes of determining where the onus of proof lies in relation to the issues before Scottish Ministers. One is an issue of substantive law and one is essentially an issue of procedure (albeit founded in law related to the procedure that applies to appropriate assessment but also in the Scottish Government's practice). The issue of substantive law relates to an understanding of the well-known authority from the European Court of Justice as regards the question of "certainty", which RSPB Scotland refer to as the reversal of the burden of proof. It is addressed in detail in legal submissions in the following section. The procedural issue relates to the assertions in both objectors' closing submissions that the question of certainty has to be determined solely on the evidence submitted to the inquiry. By virtue of the fact that it is for the competent authority to make the decision as to whether or not the project would adversely affect the integrity of the SPA, and the applicant's obligations are restricted to providing information for the appropriate assessment, following submission of this report, it remains open to the Scottish Ministers to request further information from the applicants. There is support for this submission that this inquiry does not necessarily mark the end of the applicant's contribution to the process of appropriate assessment from the decision-making process in relation to the newly consented offshore wind farms in the Outer Firth of Forth that have implications for a number of different Firth of Forth SPAs. In that case the competent authorities obtained their own scientific evidence before making a decision.

Legal framework and relevant policy

5.28 It was made clear in procedure notice 3 (revised), at paragraph 20, that I was concerned to ensure that the parties addressed in evidence the issue of assessment against designations and appropriate assessment. Although an assessment of the ornithological impacts in respect of the relevant Natura designations is addressed later, in order to avoid repetition this section discusses the generic issues that will be of relevance to that assessment and the overall conclusions. Referring here primarily to the legal and policy issues that will be of relevance for the purposes of reaching conclusions as to the materiality (in terms of decision-making) of the predicted impacts on qualifying species. While it is intended to address the factual and scientific evidence of relevance to an

assessment in respect of the SPA designation in the sections dealing with the individual species, in order to avoid repetition the general legal principles are discussed in this section. Thereafter, the legal principles will be applied at the conclusion of each “species specific” section and referred to again where relevant in drawing overall conclusions. This approach is preferable to that of SNH where “assumed” conclusions on technical and scientific issues that were the subject-matter of most of the debate in evidence at the inquiry, are simply imported into the discussion of legal principles. That approach creates a misleading impression as to how the law should be applied.

5.29 There can be no doubt from the debate at the inquiry session that the designation of central importance to the outcome of this application relates to the Caithness and Sutherland Peatlands Special Protection Area (“the SPA”). This boundary of the SPA is contiguous with the boundary of the Caithness and Sutherland Peatlands Special Area of Conservation (“the SAC”)¹⁴⁴. It is not disputed that the application site, with the exception of a short length of access track, is not within either the SPA or the SAC.

5.30 On the basis that the applicant is critical of the legal submissions made by SNH and RSPB Scotland in relation to the relevance of the Natura designations to the development of the application site, I was invited to make very specific findings as to the relationship between the proposed development site and the areas of land covered by the European designations. In particular, I was invited to draw a distinction between development sites within a Natura site and those outwith the designated site, for the purposes of reaching conclusions regarding the conservation objectives for the Natura site that have as their underlying premise the protection of existing habitat within the designated site that supports the qualifying species of the SPA. The closing submissions from both SNH and RSPB Scotland suggest that the habitat within the application site boundary should be treated as though protected under a relevant Natura designation. This is not the case.

5.31 The discussion of relevant legal principles within this section is principally confined to the topic of ornithological impacts and is relevant to the assessment against the conservation objectives of the SPA. The evidence and post-inquiry legal submissions submitted on behalf of RSPB Scotland, confirm that the legal framework of greatest relevance to the outcome of this section 36 application is that related to the SPA designation. The legislative provisions of relevance from both EU law and UK law are discussed in the objectors’ evidence, RSPB’s legal submissions on this issue, and both objectors’ closing submissions. It is beyond dispute that the primary obligations stem from the European Union and are contained in Directive 2009/147/EC on the conservation of wild birds (“the WBD”)¹⁴⁵. While the WBD was originally made in 1979, it was codified to incorporate a number of amendments in 2009.

5.32 Following upon the conclusion of evidence at the inquiry session, as a consequence of RSPB Scotland having requested the opportunity to contradict the evidence of Dr Mudge on the application of legal principles that he refers to in his evidence as being of relevance to the SPA, submissions from RSPB Scotland as to the legal principles to be derived from the WBD were received. These legal submissions were made as a consequence of the direction in procedure notice 4. As the applicant highlighted in its response to those submissions (dated 9 July 2015), it does not achieve its purpose in that the RSPB Scotland was expected to explain the divergence in approach as between both SNH and RSPB

¹⁴⁴ Shown in Figure A10.2.1 of Technical Appendix 10.2 within Volume 4 of the Strathy South ES addendum. [CD_4.4]

¹⁴⁵ [SNH N-2]

Scotland. In particular it is alleged by RSPB Scotland that during cross-examination on behalf of SSE, SNH's witness on international designations, Dr Mudge, departed from a well-established approach that SNH had taken toward both interpretation and application of the legal obligations contained in the WBD. Apart from agreeing with the broad point made by Mr McKenzie on behalf of SNH in its legal submission in response, that there is a lack of specification from the RSPB's legal representative as to when and by whom a different position has been advanced by SNH, the notable point made by the applicant's counsel in response is that there is no explanation of the legal concerns held by RSPB Scotland regarding Dr Mudge's oral evidence in response to cross-examination. This expected explanation would have been relevant to both questions of interpretation of the WBD obligations, and, application of those legal obligations to the facts of this case.

5.33 The submissions made by both SNH and RSPB Scotland on the content of the relevant provisions of the WBD and the Habitats Regulations are in the main uncontroversial. Insofar as their submissions simply recite the content of particular provisions and provide quotes from judicial authority as to the meaning of these provisions, there is no issue. However, both parties' legal representatives in their submissions to the Inquiry are guilty of over generalising as to the nature of the tests, inaccurately stating the nature of the test that falls to be applied, and incorrectly applying the tests to the facts of the case. Against the background of its involvement over the past few years in the high profile judicial reviews related to the grant of section 36 consent for the proposed wind farm on mainland Shetland and the newly consented offshore wind farms in the Outer Firth of Forth that have implications for a number of different Firth of Forth SPAs, the applicant has had first-hand experience in hearing the debates before the Outer and Inner Houses of the Court of Session and the Supreme Court as to the correct approach to not only the interpretation but also the application of the relevant principles. Both of these judicial reviews were raised on the basis that the Scottish Ministers were in breach of their obligations under the WBD as a consequence of granting consent for large scale wind farm development. The case law that is cited by the objectors' solicitors has been debated before these courts and poured over by the Counsel representing the different parties in these judicial reviews. Separately, both SNH and RSPB Scotland rely heavily in submission on the case of 'Bagmoor v Scottish Ministers' in which Senior Counsel for the applicant, Miss Wilson, appeared on behalf of the Scottish Ministers.

5.34 It was submitted that there is a difference between reading case law and attempting to apply legal principles and concepts discussed in judicial dicta as though an academic exercise, as opposed to properly understanding the issue that was being addressed and discussed by members of the judiciary. On that basis, caution is recommended against accepting the "guidance" that both objectors' solicitors provide, under reference to the case law and their own interpretation of the obligations contained in the WBD. The detailed legal submission from SNH (section 2 to 7 of closing submission) proceeds on the basis that when one has regard to relevant legal principles and concepts, one is inevitably led to the conclusion that because of the likely significant effects on greenshank and red-throated diver the Ministers are obliged by law under the WBD to refuse permission for Strathy South. In the analysis, great weight is attached to the Bagmoor case (in particular, see paragraphs 5.46 to 5.50 of closing submission). In the RSPB Scotland legal submissions dated 25 June 2015, its position is predicated on the importance of the approach taken by SNH, Scottish Ministers and the Inner House in relation to the proposed wind farm at Stacain that was the subject-matter of the decision of the Inner House in the Bagmoor case.

5.35 The way in which both parties incorrectly seek to use judicial dicta from the Bagmoor

case, provides a good example of legal analysis that lacks intellectual rigour, which results in unsound legal reasoning as to the application of different legal concepts and principles at specific stages of the assessment process. Separately, and fundamentally, the properly understood legal principles have to be applied to the facts of the particular case. It is not intended to discuss each and every case cited by the objectors in their submissions on the law. To do so would be tedious, and it is unnecessary in order to make the submission that neither objectors' legal analysis can be relied upon. The reason for taking Bagmoor as the main example to illustrate the objectors' flawed approach is because, as noted above, it is relied on heavily by both objectors and is so central to the conclusions that they invite Ministers to reach in this case. It should not be assumed, therefore, that the applicant agrees with the submissions from the objectors as to what should be taken from the other cases that it does not refer to in submissions.

5.36 The Bagmoor case was concerned with a particular factual issue where the SPA had been created during the process of determining the application for planning permission, for the purpose of protecting 19 pairs of golden eagle in the SPA area. The behavioural characteristics of golden eagles underlay the recommendation of the reporter in that case to refuse permission and those characteristics were taken into account by the Court when considering the likelihood of a significant effect and whether or not the conservation objectives would be adversely affected. While this is known to the applicant's Senior Counsel from involvement in the case, this can also be appreciated to some extent from the discussion in the judgement of issues such as the size of an active territory being 5,000 hectares, and evidence of complete abandonment of a previously occupied nest site by a breeding pair, in circumstances where there had been habitat management and prey manipulation to encourage reoccupation. These behavioural considerations that were specific to the golden eagle, and evidence related to habitat management as possible mitigation, were all of direct relevance to the conclusion of whether or not the breeding pair would be lost to the SPA population. It was a matter of agreement that the loss of one pair would constitute an adverse effect on the integrity of the site. Both objectors in this case seek to argue, by analogy, that the loss of a breeding pair of a qualifying species from an SPA is sufficient to constitute an adverse effect on site integrity. Such a position is untenable and is not supported by the case of Bagmoor.

5.37 The judgement as a whole requires to be read in order to gain a proper understanding as to the extent to which the Scottish Ministers are potentially being misled into applying the legal reasoning of the Inner House on the erroneous basis that it applies equally to the factual issues that I have to address in relation to the four qualifying species under consideration in the present case. The proper factual context for the passage cited by both objectors contained in paragraph 48 of the Lord Justice Clerk's judgement has to be taken into account. It is also highlighted that his comments in that paragraph relate to the screening process and that in certain circumstances it will be abundantly clear that an appropriate assessment is required. It is a mystery to the applicant as to why it is that both parties' legal submissions dwell to such an extent on what constitutes "likely significant effects" for the purposes of deciding if an appropriate assessment is required. With the exception of wood sandpiper, in relation to which the applicant's position is that there is no likely significant effect for the reasons explained in the RPS report SSE_11.59¹⁴⁶ and the evidence of Mr Scott, the applicant has proceeded on the basis that because of likely significant effects in relation to the other three qualifying species an appropriate assessment will require to be carried out. It is for that reason that the applicant has

¹⁴⁶ RPS (2015) Wood Sandpipers and Strathy South Wind Farm. [SSE_11.59]

provided information to inform an appropriate assessment for greenshank, red-throated diver and hen harrier.

5.38 The legal submissions of SNH and RSPB Scotland both go through the steps of the assessment process under Article 6 of the Habitats Directive in painful detail. Given the agreement on the part of the applicant that an appropriate assessment is required in relation to three species, such detailed exposition of the whole of the assessment process is unnecessary. It is observed that the Lord Justice Clerk was critical of the reporter's consideration of the effect of the wind farm on golden eagle as being "extremely detailed and highly repetitive" which "rendered comprehension very difficult since what is contained in one part is often repeated in others" (paragraph 19 of the judgement). In that regard, it is suggested that the same can be said of the legal submissions in sections 2 to 7 of SNH's closing submission. This comment is not intended as a gratuitous criticism but is put forward for serious consideration because the repetition of the same legal principle or concept in different parts of the legal submission, under different headings, is very confusing and gives rise to muddled legal reasoning.

5.39 A good example of this is in sections 5A and 5B of SNH's submissions where different judicial comment made in relation to the screening process are discussed, which then carries forward into the discussion on appropriate assessment. In doing so reference is made to the same judicial comments and approach toward the assessment of "likely significant effect" at the screening stage, as though they are equally applicable to the assessment of the predicted impacts (i.e. after mitigation is taken into account) in the appropriate assessment. The same can be said of the discussion in paragraph 5.31 of the SNH closing submission, where it is suggested that what is said in Bagmoor as to the identification of likely significant effects at the screening stage, should be adopted for the purpose of reaching conclusions from the assessment against conservation objectives in the appropriate assessment. In relation to the Habitats Directive, so much is made of the applicability of the general objectives of the Habitats Directive, which are repeatedly referred to when discussing the Article 6 obligations, that the impression is created that the habitat of the application site should be afforded the same protection as that of the SPA. It therefore has to be emphasised that the obligation on the Member State in relation to habitat outwith an SPA is clear from the last sentence of Article 4(4) of the WBD. It is in the following terms "outside these protection areas, Member States shall also strive to avoid pollution or deterioration of habitats".

5.40 The importance of avoiding being misled by parties' submissions on the correct legal approach is recognised in the judgement of the Lord Justice Clerk in Bagmoor. At paragraph 49 the Lord Justice Clerk says, "If parties had not lead the reporter down a tortuous detour, the route to his decision may have been shorter and clearer, but he nevertheless reached the correct ultimate destination."

5.41 So far as the RSPB Scotland is concerned it took the opportunity to lodge legal submissions prior to the lodging of closing submissions. This submission did little more than set out the assessment process under reference to EC guidance and some case law. As noted in the applicants' response of 9 July 2015 much of what is said is trite law and uncontroversial, with the exception of what is said in the conclusion. As noted in the response, it was expected that in closing submission there would be amplification upon the way in which the legal principles and concepts discussed in the cross-examination of Dr Mudge would be applied in relation to appropriate assessment. Instead in closing submission, it is suggested that because neither SNH nor the applicant considered there

was a need to respond to RSPB Scotland's description of the assessment process under Article 6, then the provisions should be applied precisely in the manner suggested (paragraph 1.8 of RSPB's closing submission) and no further legal submission is made. This statement and approach demonstrate a fundamental failure to understand that the cross-examination of Dr Mudge was not so much concerned with identification of the relevant principles and concepts but rather how those principles should be applied to the facts of this case.

5.42 The fact that RSPB's legal submissions failed to set out the issues that RSPB Scotland were said to have with Dr Mudge's evidence but instead simply regurgitated EC guidance and well established principles, confirms that there was a lack of appreciation as to the distinction between the interpretation of legal principles and the application of those principles to the facts of the case. Despite this apparent controversy between SNH and RSPB Scotland, it should be noted that neither SNH nor its witnesses get a mention in the RSPB closing submission. Hence, it remains unclear as to why it is that RSPB Scotland takes a different position in relation to hen harrier and wood sandpiper other than they disagree with SNH's assessment of predicted impacts and the implications for the SPA. RSPB Scotland does not explain, however, the basis upon which it argues that SNH reached the wrong conclusion in relation these two species.

5.43 The applicant does not attempt to unnecessarily reinvent the wheel by setting out its own explanation of the assessment process that must be carried out under Article 6. Instead, reference is made to two much more authoritative sources. The first is the European Commission/Union Guidance that is contained in two inquiry documents and to which Dr Mudge was referred during his cross-examination. These are: *Managing Natura 2000 Sites: The provisions of Article 6 of the "Habitats Directive"*¹⁴⁷, and *"Wind energy developments and Natura 2000"*¹⁴⁸. The first of the guidance documents was published by the European Communities in 2000 and the second was published by the EU in 2010. While SNH produced the 2000 guidance it did not produce the more up-to-date guidance specific to wind farm development and Natura sites. In cross-examination, Dr Mudge was taken to relevant parts of both guidance documents and did not disagree with the various propositions put to him under reference to these documents. It can be noted from paragraph 36 of the judgement in the Bagmoor case that it was part of the submissions made on behalf of the Scottish Ministers that the reporter had correctly made use of the relevant guidance on the step-by-step approach; explained at pages 64 to 65 and illustrated through use of flow chart on Figure 11, and the flow chart specific to appropriate assessment, Figure 12 on page 72. The applicant invites Scottish Ministers to have regard to that part of the guidance to inform their approach to assessment and not be misled into the tortuous thinking process that results from SNH's muddled legal reasoning. This is consistent with the approach of the Advocate General in the Waddenzee case where she suggested that it might prove helpful to refer to the relevant guidance documents of the Commission even although they are not legally binding.

5.44 In addition, however, the second and even more authoritative source of guidance is the recent decision of the Supreme Court in R (on the application of Champion) v North Norfolk DC [2015] UKSC 52; [2015] 1 W.L.R. 3710. The judgment in this case was issued on 22 July 2015. It is a case which concerns the "screening" provisions under the EIA Regulations that apply in England and Wales. However, in his judgment, Lord Carnwath JSC (with whom the other Justices agreed) considered the nature of the exercise being

¹⁴⁷ *Managing Natura 2000: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC*. [RSPB B-1]

¹⁴⁸ *Wind energy developments and Natura 2000*. [RSPB B-2]

carried out under article 6 of the Habitats Directive. His judgment (paragraphs 10 to 14) sets out the key legal sources, including the relevant passages from Waddenzee and Sweetman. At paragraph 34 et seq. the point is made that the term “screening” is best reserved to the formal process undertaken under the EIA Directive and Regulations. Care should be taken with the Opinions of the Advocate General and EC Guidance documents since what matters is the requirements of the legislation as interpreted by the European Court of Justice (paragraph 39). In particular, it was important not to overcomplicate matters: “The process envisaged by article 6(3) should not be over-complicated. ...in cases where it is not obvious, the competent authority will consider whether the “trigger” for appropriate assessment is met (and see paras 41-43 of Waddenzee). But this informal threshold decision is not to be confused with a formal “screening opinion” in the EIA sense. The operative words are those of the Habitats Directive itself. All that is required is that, in a case where the authority has found there to be a risk of significant adverse effects to a protected site, there should be an “appropriate assessment”. “Appropriate” is not a technical term. It indicates no more than that the assessment should be appropriate to the task in hand: that task being to satisfy the responsible authority that the project “will not adversely affect the integrity of the site concerned” taking account of the matters set in the article. As the court itself indicated in Waddenzee the context implies a high standard of investigation. However, as Advocate General Kokott said in Waddenzee [2005] All ER (EC) 353 , para 107: “the necessary certainty cannot be construed as meaning absolute certainty since that is almost impossible to attain. Instead, it is clear from the second sentence of article 6(3) of the Habitats Directive that the competent authorities must take a decision having assessed all the relevant information which is set out in particular in the appropriate assessment. The conclusion of this assessment is, of necessity, subjective in nature. Therefore, the competent authorities can, from their point of view, be certain that there will be no adverse effects even though, from an objective point of view, there is no absolute certainty.” In short, no special procedure is prescribed, and, while a high standard of investigation is demanded, the issue ultimately rests on the judgment of the authority.

5.45 It is submitted (contrary to what may be taken from Mr McKenzie’s submission in particular in his discussion of the Sweetman case) that it is vital to recognise that effects identified as “significant” when identifying whether the trigger for an appropriate assessment has been activated, are but one source of information which is ultimately available to the Scottish Ministers when carrying out that appropriate assessment so as to determine whether they can be certain that there will be no adverse effect on integrity. One of those sources of information will of course be this report, including my assessment of the expert evidence that has been presented and the conclusions and recommendations provided for the benefit of Ministers. Ultimately, however, as Lord Carnwath’s judgment makes clear, whilst a high standard of investigation is required, absolute certainty is not required and the issue ultimately rests on the judgment of Ministers as Competent Authority.

5.46 Whilst, therefore, no issue is taken with SNH highlighting the importance of the precautionary principle in this sphere (see paragraph 5.57 et seq and reference to the Court of Appeal case of Smyth), it must be borne in mind that a strict precautionary approach is not of itself an automatic bar to consent. The legal test is that considered by the Supreme Court in *Champion* which, as explained, ultimately involves the exercise of judgement on the part of the competent authority (indeed it will be noted that the case of *Smyth* involved an unsuccessful attempt to quash planning permission for residential development). It is not only SNH who make reference to the precautionary principle as though it is an additional requirement to the need for certainty, or in some way requires a higher level of certainty if the circumstances dictate that a precautionary approach should be taken toward

the assessment. RSPB Scotland takes a similar approach. By reference to the last sentence of paragraph AG99 and the first sentence of AG100 of the Advocate General's opinion in Waddenzee, it is to be noted that the requirement that the authorising authority must be certain that the project will not adversely affect the integrity of the site "gives concrete expression to the precautionary principle".

5.47 It was further submitted that the evidence from Dr Mudge was woefully inadequate for the purposes of providing any useful explanation as to how SNH had carried out the assessment process under Article 6(3), as transposed through the Habitats Regulations, to arrive at the conclusion that the proposed wind farm at Strathy South would adversely affect the integrity of the SPA. It remains entirely opaque as to the scientifically and legally reasoned basis for SNH's decision to maintain its objection on the ground the predicted impact on greenshank and red-throated diver would result in an adverse effect on the integrity of the SPA. The cross-examination did serve to demonstrate Dr Mudge's confused understanding of the effect of the Waddenzee case and how the relevant legal principles regarding "certainty" should be applied in this case. His evidence that the "key part" of the Waddenzee case was the need for the competent authority to be certain that there would not be an adverse effect on the integrity of the Natura site, confirmed the point made in opening this part of the submissions that the central issue is whether or not there is the requisite degree of certainty.

5.48 Dr Mudge accepted in cross-examination that the experts' detailed understanding of the site characteristics and the use of the site by protected species would be relevant to an evaluation of the degree of scientific certainty. Under reference to section 5.5.1 of the 2010 EU Guidance, Dr Mudge also accepted that it was evident from various passages on pages 73 and 74 that the nature and extent of survey work and monitoring work is crucial to information gathered for the appropriate assessment. He accepted that it was open to Scottish Ministers to reach a different conclusion as to the adequacy of the survey work for the purposes of addressing the question of whether or not any reasonable scientific doubt remained as whether the proposed wind farm would have an adverse effect on the integrity of the SPA. As submitted above, Dr Mudge was correct to make that concession.

5.49 It was submitted that because of the fact the central issue is that of "certainty" so far as both objectors are concerned, it would have been expected that more time would have been spent by the objectors in closing submission on just what that concept means in this decision-making context. The passages of the Advocate General's Opinion in the Waddenzee case that were put to Dr Mudge in cross-examination provides helpful guidance as to whether or not the requirement that the competent authority must be certain as to the implications for the site in light of the conclusions of the assessment, necessarily excludes the possibility of any scientific uncertainty remaining after assessment. It was submitted that the position of SNH and RSPB Scotland in relation to the qualifying species that form the basis of their maintained objection to Strathy South, is to seek to fasten upon any "uncertainty" that they say exists because not all doubt that they have, has been positively disproved by the applicant. Such an approach is naïve and does not accord with the reasoning of the Advocate General over pages 19 to 20 of the Waddenzee decision. Dr Mudge was referred to paragraphs 97 to 100, and paragraphs 102 and 107, following which he agreed the requirement for certainty cannot be construed as meaning "absolute certainty" and must necessarily be construed as allowing for permissible doubts. He also agreed that the competent authority is essentially carrying out a risk based assessment.

5.50 It was submitted that what can be taken from that part of the Opinion are the following considerations:

- It is recognised that when carrying out appropriate assessments that in many areas there is considerable scientific uncertainty as to cause and effect, and if no certainty can be established it is permissible to work with probabilities and estimates but they must be identified and reasoned (paragraphs AG97 & 98).
- The requirement for certainty that there is no reasonable scientific doubt, gives expression to the precautionary principle (paragraph AG100).
- Article 6(3) provides for decision-making that takes account of comprehensive scientific assessment and the evaluation of the acceptable level of risk that remains after this assessment, the latter consideration being within the discretion of the competent authority (paragraphs AG101 and AG102).
- The level of risk that is acceptable is set out in the second sentence of Article 6(3), namely whether the competent authority is satisfied from the assessment made using best available scientific means that it is certain the integrity of the site concerned will not be adversely affected and that the remaining risks do not undermine that certainty (paragraph AG102).
- The conclusion of an appropriate assessment is necessarily subjective in nature and a competent authority may, from its point of view, be certain even though from an objective point of view there is no absolute certainty (paragraph AG107).
- To establish whether a significant adverse effect on the site is possible, in addition to the scientific assessment account should be taken of the likelihood occurring, the extent and nature of the anticipated harm and measures to minimise and avoid harm (paragraph AG108).

5.51 Hence, in the applicant's submission the legal test under Article 6(3) requires evaluative judgements to be made having regard to many varied factors and scientific and technical considerations. The relevance of these considerations in approaching whether the competent authority can be certain that there is no reasonable scientific doubt remaining as to the effect of the project on the integrity of site, can also be confirmed from the relevant guidance on appropriate assessment at pages 73 to 83 of the 2010 EU Guidance. Dr Mudge was taken to that guidance and he accepted that the considerations discussed over those pages, informed the approach to be taken to the appropriate assessment.

5.52 As regards the four qualifying species of concern to the objectors, the issues with the applicant's scientific and technical assessment that these objectors claim prevent the Ministers from granting consent, have been fully and adequately addressed and cogent factual arguments are provided as to the basis for rejecting the criticisms. In contrast, it was submitted that the objectors' claims that the uncertainties must lead to the conclusion that there cannot be certainty that there would not be an adverse effect on the integrity of the site, are not supported by cogent factual arguments or scientific investigation by the objectors. Neither SNH nor RSPB Scotland provide any site specific evidence to support their position despite their role as stakeholders in the adjacent designated sites over many years. Furthermore, the credibility of their position in closing submission has been significantly undermined for the reasons explained in the preceding discussion. It was submitted that one can have no confidence that either objector has properly understood the correct approach to considering the implications for the SPA from authorisation of the proposed Strathy South Wind Farm; far less have they sought to bring forward to the inquiry robust scientific evidence that supports their objections. Assertion by a nature conservation

body that a project would have an adverse effect on the integrity of an SPA, cannot found the basis of factual findings on this important issue.

5.53 The case law does not provide support for an approach to scientific evaluation of the risks that amounts to no more than identifying theoretical “uncertainties” in relation to an assessment of impacts on qualifying species in an SPA. If it did, then it would be all too easy for an objector opposed to a particular wind farm that had the potential to impact upon SPA breeding birds because of its location, to simply flag up such theoretical uncertainties in the assessment and then argue that it would be contrary to European and national law to consent the project. If the competent authority does not insist upon such an objector contesting the findings from what is a comprehensive scientific assessment, objectively assessed, with cogent factual arguments based upon sound scientific evidence, then such objectors will be able to obstruct much needed wind farm development with specious argumentation. The suggestion from RSPB (in its legal submission) is that the effect of the requirement for certainty as to absence of an adverse effect on integrity, the burden of proof is reversed. While it is accepted that the onus is on the competent authority to be so satisfied, and on the developer to provide information for the purposes of the appropriate assessment to facilitate the decision-making, it does not follow from that reasoning that there is no onus of proof on objectors to establish the scientific basis for their contestation of the assessment. It was submitted that decision-makers need to be alive to such self-serving lines of argument from objectors that have no basis in scientific evidence. Provided decision-makers set out their own cogent reasons as to why the objection is being rejected, they have nothing to fear from the threat of legal challenge on the ground of an alleged breach of Article 6(3).

5.54 In order for an assessment to be “appropriate”, it must focus on the “task in hand” as Lord Carnwath put it. Legal submissions on the question of site integrity cannot be considered in a vacuum; they must necessarily be considered in the context of the expert scientific evidence that was placed before the inquiry, in particular the inter-relationship between any impacts identified and the conservation objectives. That evidence is addressed below.

5.55 Before doing so, it is necessary to pick up on two policy related matters referred to in the closing submissions for SNH / THC, and one further policy point raised by the John Muir Trust at the hearing session.

5.56 The first is an important point since it relates to the legal analysis that is set out above concerning the appropriate assessment. At paragraph 6.5 of SNH’s closing submission (six lines from the foot of page 48) passing reference is made to the fact that paragraph 170 of Scottish Planning Policy (2014)¹⁴⁹, provides that areas for use for wind farms must be suitable for such use in perpetuity. The objective which this passing reference was designed to achieve is not immediately clear to the applicant, but coming as it does within a section designed to persuade preference of the advice provided by SNH on the outcome of the appropriate assessment, it is a concern that it may be interpreted as meaning that, for the purposes of the assessment, it should be assumed that the wind farm will operate in perpetuity. If that is SNH’s objective, the applicant takes serious issue with it since it is contradicted by the clear terms of Regulation 61(6) of the Conservation of Habitats and Species Regulations 2010 which provides that: “61(6) In considering whether a plan or project will adversely affect the integrity of the site, the authority must have regard

¹⁴⁹ Scottish Planning Policy [CD_7.2]

to the manner in which it is proposed to be carried out or to any conditions or restrictions subject to which they propose that the consent, permission or other authorisation should be given.”

5.57 Therefore, if (as is anticipated) Scottish Ministers would intend to impose a condition limiting the operational lifetime of the development to 25 years then that is a condition that they must have regard to in considering whether the wind farm will adversely affect the integrity of the SPA. Insofar as the policy considerations arising out of paragraph 170 of Scottish Planning Policy are concerned it is noted that consents may be time limited. Further, as regards the broader point that is being made by SNH in this section of its submissions, as the authorities mentioned, the Scottish Ministers are free to disagree with the opinions of SNH. SNH’s role is advisory; it is the Scottish Ministers who are the competent authority and it is they who must discharge the obligations under the Habitats Directive. In this connection, the point that is made above is of particular importance in the context of departing from advice from the relevant nature conservation body.

5.58 Secondly, in relation to policy and section 8 of SNH’s closing submission that refers to development plan policy, it is observed that the objection of THC on grounds of conflict with policies 57 and 67 of the Highland-wide Local Development Plan¹⁵⁰ is entirely predicated upon the objection of SNH having been made out. If the objection of SNH on ornithological grounds is misplaced, then the policy objections of THC necessarily fall away, and in that regard Ministers are invited to accept the competing analysis of Steven Black, Planning Consultant of Jones Lang La Salle, as set out in his hearing statement on policy¹⁵¹.

5.59 Lastly, one further matter of law that requires to be touched upon relates to a suggestion made in the policy hearing statement submitted by Ian Kelly on behalf of the John Muir Trust (at paragraph 23) that the incidental killing of birds as a consequence of collision mortality during operation of the proposed wind farm would give rise to a criminal offence. Junior Counsel confirmed to the inquiry that since this was a matter more directly concerned with the ornithological evidence that was to be heard at the formal inquiry sessions, the applicant would confirm its position in due course. However, it was Junior Counsel’s understanding that there was Court of Appeal authority which rejected the general proposition advanced by Mr Kelly. RSPB Scotland confirmed that it held the same understanding.

5.60 Mr Kelly’s clients did not participate at the ornithological session and the closing submission tendered on their behalf states that the position adopted by the RSPB Scotland is supported (paragraph 6). The legal query raised at paragraph 23 of the Trust’s Hearing Statement is not repeated. Nevertheless, in the event that the Trust does still intend to place reliance upon this point, it can be confirmed that the case of Eaton v Natural England [2012] EWHC 2401 (Admin); [2013] EWCA Civ 1539 does not support the general proposition advanced by Mr Kelly. In that case the first instance judge considered the legal submission that if a wind farm developer proceeded to operate a wind farm when it knew that there was at least some risk that one or more birds would fatally collide with a blade, and one or more does so collide, then the criminal offence of deliberately killing a specimen of the species has been committed under section 1 of the Wildlife and Countryside Act 1981 (transposing obligations under Article 5 of the Wild Birds Directive). The judge considered the relevant legislation in light of the evidence of collision risk and relevant Guidance from

¹⁵⁰ Highland-Wide Local Development Plan. [CD_8.1]

¹⁵¹ Applicant’s hearing statement on policy.

the European Commission. It was concluded (paragraphs 42 to 48) that an offence was not necessarily committed by an on-going activity such as a wind farm and that on the facts the approach that had been argued by the applicant did not give rise to a serious issue to be tried. That decision was endorsed by the Court of Appeal (see paragraph 7 of the judgment of Sullivan L.J.).

5.61 Finally, it will be observed that the point canvassed by Mr Kelly is of general application (both to wind farm development and other rural agricultural operations which may give rise to incidental killing of birds), yet to the knowledge of the inquiry participants there has been no relevant example of a prosecution having been brought for unlawful killing of birds in analogous circumstances. Given that wind farm development has been a common feature of the countryside for some years now, it seems inconceivable that this point would not have become the focus of attention in a criminal court if, as Mr Kelly seems to contemplate, there was some substance to his point. Accordingly, there is no reason to believe that the construction and operation of the proposed wind farm would be likely to give rise to a criminal offence being committed.

GREENSHANK

5.62 Greenshank is the first of the qualifying species that is considered, by virtue of the fact there were considerably more issues raised in evidence concerning SNH's claimed "uncertainties" in the information collected through the EIA process, when compared to the other qualifying species. The principal issue is that of collision risk, so far as this species is concerned, and whether or not the applicant's estimate of mortalities from collision can be relied upon. SNH contends that there are a number of concerns that they have with the data used for the collision risk modelling, which is argued will have resulted in an underestimation of the numbers of greenshank that may be lost to the population of the SPA. In addition, for the purposes of this inquiry SNH has instructed MacArthur Green to carry out collision risk estimation based on an alternative approach using generic information rather than site-specific data collected through the survey work. The different collision mortality estimates have been discussed in the evidence of Dr Grant and Dr Douse and are addressed below.

5.63 RSPB's position in evidence was essentially to ride on the back of SNH's case so far as this species is concerned. Although it is suggested in RSPB's topic paper that there are issues related to both displacement from the development site, and collision risk, the alleged underestimation of displacement effects is based on the suggestion that breeding birds may have been missed because of claimed deficiencies in the survey work. There is no site-specific evidence presented by RSPB Scotland and its position in both its written evidence and closing submission depends upon SNH's case being made out in relation to the specific concern that the limited dawn survey work at the beginning of the breeding season results in an underestimate of collision risk by not taking proper account of displaying greenshank. The suggestion that there is an underestimation of a possible displacement effect is departed from in its closing submission, in which the sole basis for RSPB Scotland contending that the applicant has failed to demonstrate an absence of adverse effects on the integrity of the SPA in respect of greenshank is that "there is no assessment of the effects of the Project upon displaying greenshank." (page 38 of RSPB's closing submission).

5.64 Against that background, the applicant addresses the reliability of the site specific survey work that was used for the purpose of estimating collision mortalities and, the

reliability of the collision risk modelling (“CRM”), which is the subject of criticism. And also, RSPB’s position on displacement when addressing the topic of habitat loss and disturbance. The discussion focuses on the detailed issues raised by SNH in its topic paper (SNH O-52), the MacArthur Green alternative approach to CRM, and the evidence of Dr Douse. Before commenting on the detail of the issues raised by SNH, the applicant poses a question, related directly to the discussion in the legal submissions set out above, as regards the risk evaluation exercise that is inherent in an appropriate assessment. The question posed in relation to greenshank is: “Just how wrong would RPS and Dr Grant have to be, in their assessment of predicted collision risk mortality for greenshank, for there to be any basis for concluding that the proposed wind farm development at Strathy South would have an adverse effect on the integrity of the SPA as a consequence of collision risk mortality of greenshank?” It is acknowledged that the MacArthur Green report represents an attempt by SNH to address the question of what effect SNH’s concerns in relation to the survey work might have in changing the estimated collision mortalities. However, that report does not address the issue that underlies conservation objective 1, namely the population effect.

5.65 Based on the estimate from the applicant’s CRM, as Dr Grant explained when giving his evidence to the inquiry, such estimated mortalities would result in a tiny effect on population levels of greenshank within the SPA. At the end of his cross-examination by SNH on the conclusions contained in section 5 of the RPS 2015 inquiry report, “Updated Distance Detection Correction Assessment and Relationships with Habitat Suitability”¹⁵², it was suggested to Dr Grant that SNH just had to take it on trust that possible future change in the density of greenshank on the development site as a result of habitat change, would not alter the conclusions as to the implications for the SPA population of greenshank. In response Dr Grant emphasised that his expert opinion as to likely population effects, took account of the very simple fact that the collision risk estimates are so very small. He described the numbers discussed in section 5 of the report as being “extremely small” and would have to be multiplied up many times before having what might be called a significant impact on the SPA population.

5.66 SNH did not challenge Dr Grant on that opinion, nor did RSPB Scotland. In fact, it is noted that RSPB Scotland asked Dr Grant two questions only and did not challenge any of his technical evidence on CRM, or his conclusion as to the absence of any population effect within the SPA from collision mortalities. Nor have either objector presented evidence as to the threshold at which collision mortalities would have a population effect. That is because they know that even if one treats the applicant’s assessment of potential mortalities for greenshank as the best case scenario, the predicted mortality rate is so low that even if the prediction underestimates the possible mortalities, there would not be an adverse effect that would impact upon the maintenance of the population as a viable component of the SPA (conservation objective 1).

5.67 The unchallenged evidence of Dr Grant in relation to population effect based on his own work in respect of the CRM prepared by RPS and contributed to by him, and his insightful understanding as to the nature of the site-specific evidence used in the modelling work, provides the complete answer to the central question of whether or not the first conservation objective is met in relation to greenshank. The closing submissions from SNH on this issue is addressed below, but, in terms of evidence, all that they have in response to Dr Grant’s evidence is an alternative means of estimating collision risk based on generic

¹⁵² Updated Distance Detection Correction Assessment and Relationships with Habitat Suitability. [SSE_11.52]

information not collected at Strathy South. It has been heavily criticised by Dr Grant because of the assumptions used, which he explains do not relate to the reality of the site-specific conditions. SNH put itself in the position of not having either of the authors of the report present at the inquiry to be lead in evidence to speak to the robustness of the conclusions of the exercise that they have carried out using SNH's assumptions. While Dr McCluskie suggested in his evidence-in-chief that Professor Furness was well respected in the field of collision risk modelling, in cross-examination he accepted that this fact was largely irrelevant on the facts of this case because all of the work was based on input assumptions provided to MacArthur Green by SNH that were not related to the site conditions and observed behaviour of the species on the site. Dr McCluskie also accepted in cross-examination that unlike Dr Grant, Professor Furness's particular specialism is in relation to sea birds. The attempt to produce an alternative estimation of mortalities, based on SNH's unrealistic assumption as to densities of greenshank all within the footprint of the proposed wind farm following development of the site, carries with it such significant limitations that it does not provide any support for an opposite conclusion to that expressed by Dr Grant; that he does not consider that a population effect on the SPA population of greenshank is likely.

5.68 However, such a straightforward approach cannot be adopted because it is acknowledged that Ministers will have to be satisfied as to the potential for the claimed deficiencies in the survey work to affect the output predictions from the CRM. Nevertheless, it is extremely unlikely that the development of the proposed wind farm at Strathy South would result in a population effect on greenshank due to collision mortalities. It is submitted that the confidence with which Dr Grant stated his opinion in relation to population effects, both in cross-examination and in response to my questions, dispels the notion that there remains "reasonable scientific doubt" that the impact would be so different to that predicted by the applicant as to give rise to a significant population effect. In that connection, Dr Grant was asked in his evidence-in-chief if, based on his experience carrying out collision risk modelling, he had ever seen such a variation between estimates of collision mortalities. His answer was emphatically that he had never before seen such a variation. That evidence is in itself very telling as to the unsafe nature of SNH's attempt to take into account the effect of developing an afforested site for the proposed wind farm. There are also other considerations that support this conclusion that are discussed in the following sections.

Greenshank - survey work and methodologies

5.69 The body of correspondence that has passed between SNH and the applicant during the consultation process since the submission of the ES addendum in July 2013 up to the middle of 2014, is produced in the further environmental information report of 2014¹⁵³. In addition the applicant has produced formal consultation responses sent to the Energy Consents & Deployment Unit from SNH, and other correspondence and documentation that relates to SNH's evaluation of the assessment work that was carried out by the applicant and its experts to address SNH's remaining concerns. This documentation comprises the inquiry documents number SSE_11.135 to SSE_11.146. Much of the detail in this bundle of documents was explored during the cross-examination of Dr Douse, when seeking to establish how SNH reached its decision to maintain its objection in relation to greenshank and red-throated diver. This is referred to in the context of the assessment against designations.

¹⁵³ FEI 2014 - Appendix 4 of Technical Appendix 5.2. [CD_5.2]

5.70 In broad terms, the basis for SNH maintaining its objection to the proposed development is its concerns over specific aspects of the survey work that cause the ornithological staff within SNH, who have been involved with the technical evaluation of the assessment work, to question whether or not the estimation of collision mortality can be relied upon. There are also separate issues specific to the CRM, which are dealt with separately in the section below on the topic of collision risk. As a general point, the applicant has gone to very considerable efforts to provide SNH with the same level of confidence in the assessment of impacts on the two qualifying species still of concern, that it gained during the consultation process in relation to the applicant's assessment of impacts on other qualifying species.

Greenshank - issues with vantage point ("VP") surveys

5.71 In summary:

- The survey methodology and effort for flight activity is sufficient to provide a robust representative sample for greenshank activity at and around Strathy South, across many of the survey years between 2003 and 2014.
- Greenshanks are active across all daylight hours, and display flights are not limited to early mornings in April. Activity can sometimes be linked more to weather than time of day.
- Both dawn and dusk are periods of higher display activity for greenshank.
- Examination of vantage point survey times shows that there is reasonable and good dusk coverage in April during 2004 and 2012. In neither of these years is the collision risk estimate high.
- Vantage point locations and viewshed calculations have been established to be accurate due to vantage point micro-siting. During cross-examination SNH's witness appeared to demonstrate poor understanding of vantage point micro-siting viewshed issues.
- The effect of trees on the visibility of the rotor swept area within viewsheds at this site (due to relative position of VPs and the treeline) is largely only an issue at long distance from vantage point i.e. close to 2 kilometres, the distance at which SNH accept little of the actual flight activity is recorded due to distance detection effects (which are dealt with via distance detection correction). This is therefore not significant to calculation of collision risk at this site where trees are not close to the observers.
- The low flight activity of greenshanks within 250 metres of vantage point locations can be explained by the fact that habitat is less suitable in these areas than in other non-forested habitat within the viewsheds, demonstrated by analyses and modelling work.
- There is no reason to believe that the explanation of higher observer disturbance close to vantage points proposed by SNH is credible, given that surveyors were experienced and followed SNH guidance for undertaking such surveys.

5.72 When considering SNH's criticisms in relation to certain methodological issues, and the related question of whether there are deficiencies in the survey data collected by RPS over the six breeding seasons surveyed between 2003 and 2014, it is noted that the applicant's lack of success in satisfying SNH and Dr Douse over their remaining concerns in 2014, does not in itself lead to the conclusion that there is validity in the criticism. There is an important distinction to be drawn between true deficiencies in the survey data, as

opposed to an inability on the part of SNH and Dr Douse to understand the explanation provided by the applicant's experts, or, simply a refusal to accept that their concerns have been adequately addressed. It is apparent from the evidence of the applicant's experts, Mr Scott and Dr Grant, that they are firmly of the opinion they have provided a complete answer to the concerns raised in relation to survey issues related to greenshank. It is their position that SNH's concerns have been addressed and no reasonable doubt remains.

5.73 The difference in experience that Mr Scott has in relation to onsite survey work and his knowledge of this development site, and other wind farm developments in close proximity to the SPA, namely Strathy North and Strathy Wood, far exceeds the experience of Dr Douse in respect of this site, other nearby operational wind farms (he having stated in cross-examination that he had limited knowledge of Strathy North as it was not his case), and, this species. In relation to Mr Scott's knowledge of the behavioural characteristics of greenshank and how this species interacts with wind farms, it can be concluded that this has been informed by a wide range of literature and first-hand experience from a number of wind farm proposals. Dr Grant has a particular expertise in respect of upland waders and has very extensive applied research experience of assessing wader interactions with operational onshore wind farms, and upland habitat change of relevance to the conservation status of greenshank. He and Mr Scott both clearly understood the particular behavioural characteristics of relevance to the issues being debated in evidence and were in agreement on the issues.

5.74 In addition, Dr Grant is a widely respected and well-known ecological statistician, as Dr McCluskie attested to during his evidence. The combination of empirical and practical experience, of specific relevance to breeding upland waders, enables Dr Grant to interpret results from CRM appropriately. Moreover, and very importantly having regard to the nature of the claim by SNH that "deficiencies" in survey work will necessarily result in the estimated mortalities being underestimated, he was the witness best placed to understand the model's sensitivity to various inputs. In contrast, SNH did not lead the scientists involved in producing the MacArthur Green alternative exercise, Professor Furness and Dr Trinder. From the manner in which Dr Grant addressed the question from SNH as regards the relevance and materiality of the issue related to dawn surveys to record display flights of greenshank, it was submitted that he demonstrated that he is an entirely objective scientific witness. It was emphasised, however, that SNH's representation of his evidence in response to questions on that issue, is not accepted.

5.75 In summary on this point, that there is a clear difference in knowledge, understanding, and experience on the part of the applicant's witnesses when compared to Dr Douse. For the reasons outlined, the same can be said against RSPB's witness, Dr McCluskie, in relation to greenshank. Neither objector offered an expert witness to explain the technical basis upon which it is contended that the survey "deficiencies" that they relied upon in their objection, resulted in the conclusion that the estimate from the applicant's CRM was unreliable. Instead they simply assert that these deficiencies constitute reasonable doubt that unless removed, prevents the consenting of the proposed wind farm at Strathy South. In that regard, it is submitted that it is highly significant that SNH did not lead the authors of the alternative collision estimate that Dr Douse seeks to rely upon, or even one of them, to provide the inquiry with an informed opinion as to the implications of using the generic assumptions that had been fed to them by SNH. It is also observed that SNH did not take the opportunity to lead Professor Des Thompson who SNH describe as a world expert on greenshank and who had been the chosen witness for SNH at the inquiry into the Achany Wind Farm. Although Dr Douse was at pains to point out that the

assumption related to flight activity used by MacArthur Green was based on an interview of Professor Thompson, little weight can attach to that fact when he did not come to the inquiry to explain what information he had been provided so that it could be tested in cross-examination. From those more general comments that are of relevance as to the reliability of the survey data, the more specific issues in relation to the criticisms of the VP surveys are now considered.

Greenshank - survey methodology and effort

5.76 Before discussing the detailed issues, this section begins by referring to the evidence related to the SNH guidance on recommended bird survey methods to inform impact assessment of onshore wind farms. The observation that despite the fact the objectors' cases focus on alleged deficiencies in the survey work, neither of them made specific reference to parts of the SNH guidance, or put any part of the guidance to any of the applicant's witnesses in support of their claims that the survey work was deficient. This is particularly significant so far as SNH is concerned given that Dr Douse came to rely upon SNH guidance for his criticism in relation to the adequacy of the survey work in the early morning; as discussed in greater detail below. On no occasion did the objectors put to the applicant's witnesses particular passages of the SNH guidance, in terms of which it was suggested that there had been a failure to comply.

5.77 The first time that Dr Douse was referred to any SNH guidance was in cross-examination for the applicant. He was taken to guidance for the 2010¹⁵⁴ and 2012¹⁵⁵ survey work respectively; it having been explained that in 2012 there was a draft of the 2013 guidance that did not change substantially prior to publication of the finalised guidance in August 2013. He confirmed that these were the relevant guidance documents to which he was referring when he made reference to SNH guidance. SSE_11.76 is the guidance of relevance to the 2014 survey work¹⁵⁶. He agreed, under reference to paragraph 4 in the 2010 guidance that SNH provided both general guidance in relation to survey work and also more specific guidance for CRM. He agreed that they should be read together and that the guidance in SSE_11.72 provided important information on the SNH Band Model that had been used by the applicant for CRM.

5.78 The issues that were covered with him and which are relevant as to the adequacy of the survey work and were agreed with Dr Douse during his cross-examination are summarised below:

- There were some key changes between the 2010 and 2013 guidance, with an increase in the one year for the recommended minimum duration of the survey period. Hence, SNH's position changed during the 6 breeding seasons surveyed at the site from 2003 to 2012. It is accepted that the survey information upon which the ES addendum is based is 2010 and 2012, however the FEI (2014) is based upon additional 2014 survey work that was carried out to address specific issues of outstanding concern to SNH. (Paragraph 3.5 of 2013 guidance, SSE_11.75¹⁵⁷, and same paragraph number in 2014 guidance, SSE_11.76).

¹⁵⁴ SNH (2010) Survey Methods for use in Assessing Impacts on Onshore Wind Farms on Bird Communities (revised 2010). [SSE_11.71]

¹⁵⁵ SNH (2010) Use of Avoidance Rates in the SNH Wind Farm Collision Risk Model. [SSE_11.72]

¹⁵⁶ SNH (2014) Assessing Connectivity with SPAs. [SSE_11.76]

¹⁵⁷ SNH (2013) Assessing the cumulative impact of onshore wind energy developments. [SSE_11.75]

- Prior to the change, in the 2010 guidance while one year was the minimum requirement the emphasis was on understanding the underlying trends, such as variation in breeding success (paragraph 22 of 2010 guidance). This is highly relevant to the importance of having survey records over six breeding bird seasons between 2003 and 2012.
- The guidance is advisory only and site specific and development specific considerations may justify a different approach to survey methods. It should be appropriate in method and effort to the circumstances of the site (paragraph 7 of 2010 guidance, SSE_11.71).
- The importance of contemporaneous data is that bird distributions can change (paragraph 32 and section 7 of the 2010 guidance). It is submitted that this is highly relevant to the assessment of distribution of breeding pairs in proximity to the proposed development.
- Walkover methods are accepted by SNH as having value for particular purposes (paragraphs 33 to 34 of the 2010 guidance). It was accepted this was relevant to the suggestion that the 2014 survey work was not acceptable because walkover surveys had been done rather than a formal Brown and Shepherd survey. This issue is discussed further below.
- Under reference to guidance on survey and vantage point methods, Dr Douse confirmed that there is no dispute that appropriate methods were used, with the exception of the adequacy of surveys carried out early in the day at the beginning of the breeding season during mating.
- The SNH guidance contained a recommendation of a minimum of 36 hours of vantage point watches should be conducted for each viewpoint over both the breeding and non-breeding seasons; but as noted in table 1.4 of SSE_11.75, the requirement for greenshank was 36 hours in the breeding season only, the nonbreeding season not being applicable as birds are not present.
- The SNH guidance contained standard VP methodologies that should be followed. In the SNH guidance this is contained in Appendix 1 of all guidance. In relation to the temporal spread, the surveys should take place between sunrise and sunset and it is noted that flight activity can peak early and late in the day and during June to August. In table 1.4 of both the 2013 and 2014 Guidance, it is noted that specific to greenshank, display is primarily in the earlier part of the breeding season and often very early in the day.

5.79

There is a useful summary of the ornithological survey work in section 3 of SSE_11.59¹⁵⁸ that also cross-refers to the relevant SNH guidance at the time that the different surveys were undertaken. The RPS inquiry report “An Assessment of Survey Effort at Strathy South Wind Farm”¹⁵⁹ provides a very comprehensive account of the survey effort. It is intended to inform the extent to which the survey effort to establish the baseline conditions at the site and collect data for CRM, accords with SNH guidance. The key survey issues for the purposes of this inquiry are flight activity, and, the locations and numbers of breeding pairs in and around the site and within the buffer zone. It is in relation to these aspects of the baseline evidence that SNH argues that there are deficiencies in the data, such that they believe that they are unable to determine beyond reasonable doubt that

¹⁵⁸ RPS (2015g) Wood Sandpipers and Strathy South Wind Farm. [SSE_11.59]

¹⁵⁹ RPS (2015i) An Assessment of Survey Effort at Strathy South Wind Farm. [SSE_11.133]

the integrity of the SPA would not be adversely affected as a result of impacts on greenshank and red-throated diver.

5.80 As noted in paragraph 1.1 of the report (SSE_11.133), RPS addresses “general aspects of the position taken by SNH throughout correspondence and relates this to the data collected, the survey guidance followed, and how SNH dealt with similar issues in relation to other wind farm applications”. Much of the cross-examination from SNH on this report, centred on whether or not the situation on Lewis in relation to the Stornoway and Druim Leathann wind farms was sufficiently analogous as to support the argument that SNH had not acted in a manner consistent with its approach to the evaluation of other wind farm developments located in proximity to an SPA. In this section the issue of lack of consistency as regards the potential for disturbance of red-throated diver is not discussed. The matters debated in the evidence of Mr Scott as to how comparable the Lewis Wind Farm proposals are with Strathy South does not apply to the neighbouring consented and constructed Strathy North site, and Strathy Wood that is currently going through the application process. This comparison of numbers of hours of VP survey work is shown in Figure 15 of SSE_11.133. Nor does it apply to the straightforward quantification exercise of numbers of hours of VP watches that forms the basis of the conclusion in the summary to the report that it supports the conclusion that “surveys at Strathy South have amassed a comprehensive ornithological dataset that, in all likelihood, may exceed that assembled for any proposed wind farm in Scotland, in terms of number of hours and number of breeding seasons covered”.

5.81 Both Figures 15 and 16, which compare the total VP survey effort at the application site when compared to SNH guidance, provide a startlingly clear graphic demonstration of the huge number of hours that have been spent carrying out VP surveys at Strathy South. From comparative evidence it is apparent that the survey work carried out far exceeds SNH guidance in terms of the number of hours of VP survey that should be carried out in breeding seasons for the purpose of EIA work. It also far exceeds the numbers of hours of VP survey work carried out for Strathy North, in respect of which SNH did not object and which also has the potential to impact upon the same qualifying species of the same SPA. While Dr Douse did not engage in the reason for this apparent inconsistency in attitude on the part of Strathy North, because he had no involvement in Strathy North, he did accept that there was at least double the amount of survey work carried out for Strathy South when compared to Strathy North, which has been consented without SNH objection. These factual issues are not only relevant to the requirement that collision risk assessment is based on extensive field data (Dr Grant explained actual flight activity is a key input variable for CRM in his evidence-in-chief), but it also provides clear support for the submission that has already been made that the knowledge that the applicant’s experts have as to the use of the site by the qualifying species is unsurpassed, when compared to anything that either SNH or RSPB Scotland have had to offer to the inquiry.

5.82 It is of course acknowledged by the applicant and its advisers that volume of survey work is not by itself determinative of the question of whether it is fit for purpose. However, it is the position of the applicant and its experts that the huge numbers of hours spent carrying out survey work at Strathy South over six breeding seasons, has provided RPS with a robust representative sample of greenshank activity at and around the development site. It is therefore well-understood what use greenshank make of the site. During Dr Douse’s cross-examination, he came to the position that he openly acknowledged that the ornithologists employed by the applicant understood the use of the site made by specific species of relevance to this inquiry. In relation to this particular line of questioning Dr

Douse was being pressed as to his alleged deficiencies in the 2014 survey work that had resulted in SNH placing no weight on the additional survey evidence produced in the FEI (2014).

5.83 The position of Dr Douse in cross-examination was at best equivocal, at worst less than candid as to why it was that the survey information contained in the FEI (2014) had not addressed SNH's outstanding concerns that were debated at this inquiry. In his evidence during cross-examination he confirmed that the decision by SNH to maintain its objection following submission of the FEI was based on his advice and that the decision was ultimately taken at Director level. However, there was considerable ambiguity as to the extent to which Dr Douse had properly had regard to the FEI (2014) when providing his advice to his Director. Initially he contended that little cognisance had been taken of the 2014 survey data because it was considered to have a number of significant omissions that led Dr Douse to conclude that its position of objection would not change in relation to greenshank and red-throated diver.

5.84 However, when pressed on the exact nature of those so-called omissions, Dr Douse could not substantiate his position. The only issue put to the Applicant's witnesses in cross-examination was that there was not a formal Brown and Shepherd survey in 2014, instead there had been walkover surveys. Dr Douse accepted the acknowledgement in SNH Guidance that such a survey can have value of its own, albeit that it is not a substitute for Brown & Shepherd surveys. This was also the only claimed deficiency referred to by Dr Douse during cross-examination. He did concede that by 2014, the additional survey work was being carried out to address the outstanding concerns of SNH and that it was bespoke survey work for that purpose. It was not intended as formal survey work to comply with the minimum requirement of two years' survey work; that had been carried out in 2010 and 2012. This work was over and above the minimum requirement of 2 years' survey data to address specific issues.

5.85 During survey planning for the 2014 breeding season, the outstanding objections to the development by SNH centred round red-throated diver (collision mortality and displacement) and greenshank (collision mortality). A survey programme was therefore devised to collect data to enhance understanding of the specific issues that remained of concern to SNH. The correspondence produced in Appendix 5 of Technical Appendix 5.2 of the FEI (CD_5.2) and more concisely from SSE_11.146¹⁶⁰ onwards, records the attempts throughout 2014 to reach a position of agreement that the applicant had fully addressed SNH's concerns through the additional work commissioned by the applicant. For this purpose RPS designed a vantage point survey programme to collect flight data for collision risk modelling (and distance detection correction analysis for greenshank), extensive breeding diver walkover surveys and focal watches to collect further information on red-throated diver breeding locations and flight activity for chick provisioning, and, camera trapping at a specific location [redacted] to provide unparalleled continuous survey coverage of a particular loch of concern to SNH with respect to red-throated divers. Breeding raptor surveys were also carried out. It was not considered necessary to carry out further moorland breeding bird surveys as a great deal of moorland breeding bird survey effort had been carried out in previous years (particularly 2010 and 2012), hence these surveys were not repeated in 2014. SNH did not suggest that this was an omission in the work being carried out for the specific concerns that were being addressed.

¹⁶⁰ Approved Meeting Minutes. [SSE_11.146]

5.86 Dr Douse repeatedly avoided answering the question as to whether or not the walkover nature of the site survey was an issue at all, because by that stage the applicant's witnesses well-understood the use of the site made by the species of concern to consultees. While he agreed that the surveys in 2014 were designed to address SNH's outstanding concerns, he was very resistant to the proposition that insofar as the criticism related to the 2014 survey work not being a "formal survey", that was a reference to the walkover survey carried out in place of a Brown and Shepherd survey. As discussed, he accepted under reference to the SNH guidance that SNH accepted that walkover surveys had a value depending upon the objective.

5.87 It was suggested to him that by 2014 the applicant's expert ornithologists had a good understanding of the use of the site and did not need to carry out a Brown and Shepherd survey. He equivocated over that proposition but ultimately, after repeated questioning he came to agree that he had no issue as regards the understanding of the applicant's ornithologists as to the use made of the site by different species and their distribution. Furthermore, in cross-examination he stated that he was "highly satisfied" with what was presented in 2014 and that RPS had gone to great lengths to characterise the area. This is of course, completely at odds with the statement by both SNH in cross-examination and Dr Douse in evidence, that the FEI (2014) was definitely taken into account but not relied upon because of alleged unspecified deficiencies in the survey work. Once it is understood that the only alleged deficiency was the absence of a Brown and Shepherd survey, and that in fact Dr Douse was highly satisfied as regards RPS's characterisation of the area, the only conclusion that can be reached is that SNH placed no weight on the 2014 survey work for no good reason and has been unable to justify that decision at the inquiry.

5.88 This analysis of the evidence that leads to the conclusion that the 2014 data was "set aside" (to use Dr Douse's words during cross-examination) is entirely consistent with the fact that the applicant and RPS did not receive any response from SNH that made any reference to the site survey data contained in the FEI (2014), never mind a review of its outstanding concerns under reference to that data. Mr Scott advised that he had never seen a response from SNH that suggested that this data in relation to greenshank and red-throated diver had been reviewed and considered. SNH was unable to challenge that evidence. At the end of Dr Douse's evidence all that can be taken from it is that a decision was taken by him to leave out of account the FEI (2014) for the purposes of reviewing whether or not he could advise that the outstanding of objection by SNH in relation to greenshank and red-throated diver could be withdrawn. His reasons for doing so are less than clear because frankly his attempted justification that it was due to alleged deficiencies in the 2014 survey work, cannot be supported by the evidence. When one examines the evidence of SNH that is intended to support its objection in relation to greenshank and red-throated diver, it is submitted that there was no good reason for SNH to maintain the objection in light of the further information provided. Moreover, it was submitted that when the RPS inquiry reports were submitted, which provided evidence as to the lack of substance to the outstanding SNH concerns, there was even less reason for the objection to be maintained.

5.89 The specific concerns that SNH has brought to inquiry in relation to greenshank are: (1) VP locations and viewshed calculations of flight activity, including issues of detectability and surveyor disturbance; and (2) the adequacy of the survey work for the purposes of recording display flights.

5.90 RSPB's stated concerns in its Topic Paper are also the alleged inadequacy of survey work in respect of display flights, and, detection of greenshank. However, Dr McCluskie did make clear in his evidence that he agreed with Dr Grant's approach to calculation of the distance detection correction. There is a separate site-specific issue that is concerned with the prospect of colonisation of the development site following removal of the commercial forestry, but that is addressed in the section on collision risk.

Greenshank - viewpoints and viewsheds

5.91 The applicant draws attention to the very limited number of site visits carried out by the objectors' experts. While Dr Douse did attempt to visit the VPs, it was apparent from the detailed questioning in relation to this issue that he had experienced limited success in establishing the correct position from which to consider the nature of the viewshed. When he was taken through all of the VPs shown on Figure 1 of the RPS inquiry report SSE_11.52¹⁶¹ during cross-examination, at the outset of his cross-examination he stated that the only viewpoint that he had not attempted to visit at all was VP16. So far as some of the other viewpoints were concerned he had experienced some difficulty in locating the exact location of the viewpoint because on some occasions he only had a map and did not have GPS to assist in locating the viewpoint; this was expressly stated to relate to viewpoints 1, 5, and 15. However, he also discussed visiting "the areas around some of the viewpoints", 3, 17 and 18 for example but did not try to locate the exact viewpoint and viewpoints 19 and 20 he "viewed" from the access track. At the time of giving his evidence, Dr Douse was still unsure if he had accurately located viewpoint 20.

5.92 It was submitted that I had visited the VPs and would be able to reach my own conclusion as to the visibility across the different viewsheds from these VPs. From the accompanied site visit in the spring, I would also have been able to form a view as to the differences in understanding and knowledge of the VPs as between Mr Scott and Dr Douse. In that regard, reference is made to the discussion between the two witnesses as to the location of VP11. It is understood from the applicant's representatives who attended the site visit, that Dr Douse seemed to want to point out that what was relevant to note on the site visit was what could be viewed from a location on the track and not from the VP itself. When it was pointed out that this location was not the exact location of the VP, and that a GPS is only accurate to circa 10 metres, and viewshed analysis is based on 50 metre computer modelled cells, the discussion moved on. The entire visiting party present on the site visit crossed the high deer fence and moved several metres to a slightly higher position from where surveys had taken place. This location was still within the parameters of the prescribed vantage point location, and illustrated that the paper map illustration of a VP viewshed is indicative, but is also micro-sited to attain the best view at all times.

5.93 Separately, there are a number of points that emerged from the evidence of Dr Douse at the inquiry that do call into question his understanding of the technical evidence that RPS has produced. During cross-examination Dr Douse appeared to demonstrate poor understanding of viewshed issues, confusing what could be seen from a standing position with what is shown on the viewshed map for 0m height. Although it was apparent from the cross-examination of Mr Scott that Mr McKenzie understood that subtlety, the same could not be said from the evidence of Dr Douse. While it was acknowledged that he differentiates in his topic paper between the figures in the ES addendum that were at 0m compared to 20m, his understanding when giving evidence was less than clear.

¹⁶¹ RPS (2015b) An Assessment of Flight Activity of Greenshank in Relation to Collision Risk Modelling at Strathy South Wind Farm. [SSE_11.52]

5.94 In cross-examination Dr Douse sought to make much of the fact that he had been able to get a clear view of the bothy that is visible from VP3 but that it was not shown on Figure A11.1.18 of the ES Addendum Confidential¹⁶², which caused him to question the accuracy of the viewshed calculation. He was taken to this figure in the addendum to follow up on questions that had been put to Dr Grant under reference to Figure 1 of the RPS inquiry report, SSE_11.52. The question that was put to him was that the patchy coverage shown in that figure could be accounted for because the terrain was undulating. While he agreed with that point, he then went on to question the accuracy of the viewshed mapping because he could not understand why it was that the bothy was not visible. The evidence illustrates a lack of understanding of the technical information contained in the environmental information, i.e. the 0m viewshed map shows what is visible at 0m height, which clearly shows that the bothy is not visible from this vantage point. However, the 20m viewshed map shows that the airspace 20m above the bothy (i.e. the collision risk airspace) is visible.

5.95 Dr Douse accepted during his cross-examination that what is important so far as SNH guidance is concerned is the survey of the collision risk volume, but throughout his cross-examination his criticisms were based on his personal judgement of whether or not the viewsheds shown on the various figures in the ES addendum and the FEI (2014) fairly represented what could be seen by him from a particular VP. It was his judgement that because some of the viewsheds from particular VPs did not “go out” to 2 kilometres when he attempted to “ground-truth” them from the particular VP, there was not adequate coverage in order to comply with guidance. As will be noted from the up-to-date SNH guidance, recognition is given by SNH to the fact that this is an issue generally and Dr Grant explained the relevance of the distance detection correction to take account of this fall off in visibility. Dr Grant also spoke in his evidence about the importance of understanding that different parts of the viewshed were covered from more than one VP and that they were overlapping. This contributed to the accurate assessment of the collision risk volume.

5.96 A separate issue was raised by SNH in relation to the effect of trees on viewsheds. The evidence from Dr Grant was that while the model did not empirically take account of the effect of trees (in the sense of being measured), the issue had been considered and addressed by RPS and Dr Grant. He advised that the issue of overlapping viewsheds discussed above, was relevant to this issue too and formed part of the qualitative (as opposed to quantitative) assessment that he and RPS had carried out when considering this outstanding concern of SNH. Specifically, in relation to the modelling carried out for Strathy South, the effect of trees on viewsheds is incidentally taken account of through the use of the distance detection correction. Dr Grant explained that having regard to the site-specific conditions, it was the case at Strathy South that the effect of trees only began to obscure detection of greenshank at risk height, at longer distances approaching 2 kilometres. Dr Grant explained that because SNH assumes detection is not possible at this distance from the vantage point, i.e. close to 2 kilometres which is the distance at which SNH considers little of the actual flight activity is recorded, it was necessary to consider how that could be addressed in the model. The more recent SNH guidance of 2013 and 2014 makes specific reference to this issue and it is not, therefore, unique to Strathy South. It is an issue that SNH expects to address in most cases. This is what resulted in the calculation of the distance detection correction which is explained in the RPS inquiry report

¹⁶² ES Addendum. [CD_4.5]

SSE_11.52 that Dr Grant spoke to in evidence. It was therefore his considered expert opinion that this issue in relation to the survey work had not led to underestimation in the CRM.

5.97 This is another clear example of Dr Douse and SNH simply failing to understand the technical evidence. In that regard, it is emphasised that his own evidence on this issue on viewsheds was restricted solely to the question of what could be seen by him from particular VPs for the purpose of reaching a judgement as to whether greenshank could be detected over the whole viewshed from the VP survey. He clearly considered such an evaluation would be determinative of the question of whether flight activity was underestimated in the CRM and either did not fully consider or understand other considerations of relevance as to how the collision risk volume had been surveyed, or, the relevance of the distance detection correction to this issue.

Greenshank - timing of survey work

5.98 Both SNH and RSPB Scotland seek to undermine the robustness of the CRM on the basis that the survey work did not provide sufficient coverage during the dawn period in the early part of the breeding season (April). When this issue is considered, objectively, the applicant has provided more than sufficient reasoned explanation as to the basis upon which it has been concluded by RPS and Dr Grant that this issue has not resulted in any significant underestimation of flight activity on the site within collision risk height. As both Mr Scott and Dr Grant explained in their evidence, greenshank will be active across all daylight hours, and display flights are not limited to early mornings in April. Activity can sometimes be linked more to weather than time of day. Dr Grant referred to the fact that this was reflected in the extract of the book written by the parents of Professor Des Thompson that SNH relies upon and uses as the basis for its input assumptions in its own collision risk estimation exercise that MacArthur Green carried out. This is produced with the inquiry document number, SNH O-36¹⁶³, which contrary to the reference provided in the list of SNH's Ornithology Documents is from the 2nd edition dated 1979 and not the first edition in 1951. This was explained on the opening day of the inquiry session when a motion was made on behalf of the Applicant to lodge the book itself.

5.99 At the opening of the inquiry session the applicant sought to lodge the book because the applicant's experts consider that there is much more discussion in the book that is of relevance to the assumptions used in the MacArthur Green collision risk estimation exercise, than contained in the short section produced by SNH. Disappointingly, SNH (and RSPB Scotland) opposed that request and ultimately only one additional page was lodged that Dr Grant considered bore upon the behavioural characteristics of greenshank that was of direct relevance to the exercise carried out on the instructions of SNH. Nonetheless, the following passages in the chapter on "Territory and Dispersion" produced by SNH are relevant:

- Page 104, ".....shortly before the hen lays her first egg, he often song-dances passionately, high above his territory."
- Page 105, "During egg-laying, territory-holding cocks often sing when intruders fly over their territories. Intrusion may also lead to attacks and pursuits, with the territory holder song-dancing after he has ejected the trespassers...Time after

¹⁶³ Nethersole-Thompson D and M – Greenshanks – 1951. [SNH 0-36]

time the two cocks leap-frogged over on another and then rose and flew high with the territory holder trying to out-fly and buffet his rival”

- Page 105, “In Sutherland, cocks sometimes song-dance over their territories before evening nest-relief....”
- Page 106, “Territorial defence is particularly strong just before and during the hatch.”
- Bottom of page 108 and top of page 109, “If, however, the Knoll chicks started to wander into the living-space of the Eamonn pairs the two sets of parents became excited and aggressive, the cocks song-dancing and flying towards each other before the broods were herded back into their own living-space.”

5.100 These passages support the evidence of both Mr Scott and Dr Murray, who both have considerable first-hand experience observing greenshank, and knowledge of the site. They both stated in their evidence that dawn was not the only time at which greenshank could be expected to engage in display flights over the site. Dr Grant emphasised that in his experience the timing of display flights was not “black and white” and that it would very often depend on weather conditions. In his experience, if the day began overcast and cloudy often there would be no display flights until later in the day when the sun came out. Similarly, it was Mr Scott’s experience that the timing of display flights varied over a day and dusk was just as important as dawn as both are periods of higher display activity for greenshank. This is consistent with the evidence of Dr Douse in his evidence-in-chief. He was referred by Mr McKenzie to different references in a series of documents^{164 165 166}, as evidence that both dawn and dusk are avoided during Brown & Shepherd surveys to count numbers of birds (as opposed to surveys to record flight activity) because of higher display activity at that time.

5.101 The reliance that SNH places on the assertion that the survey work is defective and gives rise to uncertainty as to the reliability of the estimate of mortalities, can be clearly understood from paragraph 163 of Dr Douse’s Topic Paper. It is stated that “one of the critical periods of high flight activity is known to be early in the season in the hours after dawn [page 553, SNH O-34]” (emphasis added). While the document produced is an extract from the 1983 Cramp and Simmons edition of “The Birds of the Western Palearctic. Greenshank”, as Mr Scott explained in his evidence when one has regard to the information provided on page 553, it is apparent that the source Dr Douse is actually relying upon is a passage concerning brief observations by Denisova in 1962. On the basis of that source Dr Douse and SNH argue in the Topic Paper that the period before 7am is the most critical period and if the VP survey work doesn’t cover that period then it necessarily follows that the collision risk to greenshank on the site is liable to have been underestimated.

5.102 Mr Scott was scathing in his evidence to the Inquiry as to the reliance SNH places on such a weak evidence base for the purposes of drawing conclusions as to the behavioural characteristics of greenshank in the Caithness and Sutherland Peatlands SPA. As he explained during his re-examination when he gave evidence to the inquiry in relation to greenshank, because of the reliance that SNH placed on this source RPS had attempted to get the Denisova paper but had been unable to do so. However, it had been established that the conclusion that flight activity was twice as intense between 3am and 7am, when compared to the period from midday to 11pm, was based upon “brief observations” in

¹⁶⁴ Bellamy & Eaton (2010) The 2009 Wader Survey - Main report - version 3. [SNH 0-38]

¹⁶⁵ Brown & Shepherd 1993. [SNH 0-39]

¹⁶⁶ Calladine et al wader survey frequency 2009. [SNH O-40]

Siberia which was considerably further north and east than Strathy South and it wasn't even known where in Siberia these brief observations were carried out. Mr Scott did not know whether or not the dawn period was the same in Siberia or not. More importantly, it was apparent when Dr Douse gave his evidence a few days later, he was not in a position to offer up any more detailed information on these "brief observations". In fact, it is submitted that under cross-examination, Dr Douse sought to distance himself from his previous reliance upon Denisova's observations in Siberia. Mr Scott concluded his evidence on that issue by stating to the inquiry that he considered that SNH's reliance upon that source and the weight attached to it in the Topic Paper was unsuitable.

5.103 It appears SNH's inquiry team shared that view as Dr Douse did not attempt to defend the use made of Denisova in his oral evidence to the inquiry and chose instead to seek to create the impression in both his evidence-in-chief and in cross-examination that the three papers referred to above, to which he was taken in his evidence-in-chief, formed the basis for his concern over diurnal behavioural variability of moorland breeding waders. He also stated on a number of occasions that SNH's insistence that there was insufficient survey coverage at dawn or the early part of the day stemmed from the requirement in SNH guidance that the whole diurnal period is covered. When specifically asked about Mr Scott's criticism that the Denisova evidence was based on "brief observations", his response was that his position did not depend on use of that reference, contrary to what can be taken from the Topic Paper. He confirmed that he had also attempted to locate the paper but experienced the same problem as Mr Scott and, in any event, believed that the paper was in Russian. This part of the evidence is relied upon in submission because of its relevance to the weight given to the evidence, and the question of reliability of a particular witness's evidence. It was submitted that the inappropriate use made of generic observations from an entirely different part of the world, and for which no proper evidential basis is provided to establish the relevance of such observations to greenhank at Strathy South, demonstrates a lack of scientific rigour on the part of SNH.

5.104 Further, it provides a sound basis for preferring the evidence of Mr Scott and Dr Grant in relation to the periods of time when it can be expected to observe higher flight activity at and around the development site. Dr Douse having abandoned his reliance on the Denisova source, fell back on SNH guidance and the three general papers that are concerned with Brown and Shepherd surveying rather than VP surveys, as providing the basis for judging whether or not the survey work adequately covered early morning display flight activity. In doing so, he made clear that he did not have any site specific evidence to offer to the inquiry on this issue. This has some bearing on the approach that SNH took to the assumptions used in its alternative approach to collision risk estimation.

5.105 It is not only Dr Douse's evidence that is unreliable on this issue. The closing submissions put forward by SNH at paragraphs 10.17 and 10.18, on what is described as the second issue that SNH has with the VP survey work, also cannot be relied upon. In paragraph 10.17, two criticisms are made of the survey evidence in relation to observing display flight activity:

- The first is in relation to the "very limited survey work undertaken in the early part of the season when the great majority of display flights would take place".
- The second is stated to be "that there was often none and in other cases, only very limited survey work undertaken during the early part of the day which is when most of the display and other flight activity by greenshank and other waders will take place".

5.106 The first point made in rebuttal is to take issue with the assertion that it is not just display flight activity that occurs mostly in the early part of the day but also “other flight activity”. It has never been part of SNH’s case that the issue of early morning coverage applies to any other type of flight activity other than display activity. This cannot be disputed, not least because it is that particular flight activity that results in greenshank flying at collision risk height and that is why it is of particular interest to SNH and RSPB Scotland. A finding on this point, recording that SNH’s stated residual concern at the inquiry was only in relation to display flight activity is recommended.

5.107 Separately, the fact that this part of the submission simply ignores the acceptance by Dr Douse in cross-examination that it is both dawn and dusk coverage that is relevant to display flight. The question of adequacy of survey work to assess display flights should not be restricted solely to a count of the number of early morning surveys. As already submitted, after abandoning Denisova in cross-examination Dr Douse’s principal justification for his insistence that it was the early morning period that was of critical importance, came to be SNH guidance. It therefore is relevant that the closing submission for SNH also ignores the detailed cross-examination in relation to the relevant SNH guidance and the concessions from Dr Douse under reference to various passages of the guidance. It is clear from the guidance in relation to the timing of VP watches that Mr Scott is correct in emphasising that the purpose of survey work is to obtain a representative sample of activity on the site. It was his position that watches outwith April and the early morning period provided evidence of display flights and that at the development site, breeding would go into May and not be restricted to April. Also that he knew from his first-hand experience that at the development site, display flights occurred throughout the day, and not simply around dawn. He considered, therefore, that a representative sample was obtained from watches that took place later than just those in April, and from other watches spread throughout the day, and particularly at dusk.

5.108 He was supported in this by Dr Grant, who confirmed that from his knowledge of the species, in this part of Scotland breeding would go into May and it was simply wrong to suggest that it was only in the early part of the day that display flights could be observed. In this regard, the applicant takes issue with SNH’s representation of Dr Grant’s evidence in paragraph 10.18 in which he contends that Dr Grant acknowledged in response to a question from me, that there was a paucity of data in April and early in the morning. That summary of the evidence is wrong and misleading. When one considers the totality of the evidence given by Dr Grant it is quite clear that he was content that the field data was fit for purpose, i.e. for use in the CRM. Moreover, having checked the notes of evidence, the response that Dr Grant gave to the particular question (as to whether or not this concern that SNH had affected the reliability or credibility of the survey work), was that Dr Grant did agree “that there is sometimes a paucity of data in April and early morning”. Emphasising the qualification used by Dr Grant of “sometimes”, may seem like semantics but it is a very important qualification when one reads on in the notes of evidence to put his answer on that specific point, into the context of the remainder of his answer. He went on to say that even acknowledging that there is sometimes a paucity of data from early morning, early on in the breeding season, his response on that issue was to refer to his own experience in the field and from the chapter from the Nethersole-Thompson book relied upon by SNH (document SNH O-36), from which it is apparent that although, on average activity, is likely to be highest at that time, it was not a “black and white” thing. He did not agree that this flight activity had not been captured through the site survey work that would lead to any underestimation of significance in the CRM.

5.109 The VP survey work is not intended to provide an absolute quantification of the actual amount of time spent in display flight over the site. That would involve conducting watches over 100% of the site, and 24/7 over the breeding season. It is clear from the SNH guidance that that is not what is envisaged, but rather that the VP survey captures a sample of the different types of flight activity that occurs, and temporal spacing is applied. Finally, the 2012 survey work shows good temporal coverage of the breeding season and provides reasonable coverage of early morning. Up to the inquiry, SNH relied upon the Denisova source for claiming that there was a disproportionate amount of display flight activity in the early morning. The abandonment of Denisova as credible scientific basis for this assertion demonstrates that SNH has placed an unjustified amount of weight on the importance of early morning survey work, and the importance of April, in effectively suggesting that is where the focus of the survey work should have been. Such a black and white position is not supported by other more reliable evidence presented by the applicant's experts. There can be no doubt that both Mr Scott and Dr Grant fully understood the relevance of the behavioural characteristics of greenshank that gave rise to display flight activity, and the relevance of this particular activity to collision risk.

Greenshank - surveyor disturbance

5.110 The final issue addressed in relation to the survey work is the claim by SNH that the low flight activity for greenshank that was recorded in the first of the distance bands, 0–250 metres, is attributable to surveyor disturbance. As a consequence, for this reason too, SNH claims that the flight activity on the site has been underestimated. What can be taken from the discussion of this residual concern at the inquiry is that there is no credible basis in evidence that has been put forward by SNH to support this assertion. It is based on speculation on the part of SNH as to what the explanation could be for this anomalous result. No-one disputes that the lower record of flight activity in the first of the distance bands is apparently an anomaly. Experience shows that generally the observations of the target species are more numerous in that first (closest) band because of the obvious benefit of close distance between the observer and the survey target. As already stated, it is not disputed that the higher record of flight activity in the second distance band is, on the face of it, an anomaly. However, as Mr Scott observed during his evidence – that is nature, unexpected things happen and are detected through survey work. Because a result is unexpected, this does not by itself lead to the conclusion that the survey data is unreliable.

5.111 Yet again, the applicant can point to a much more scientific and robust approach to seeking to understand this anomaly than the superficial approach taken by SNH. The only explanation tendered by SNH is the suggestion of surveyor disturbance. However, no explanation is provided as to the basis upon which this conclusion should be reached from the evidence presented by SNH. Mr Scott explained that the surveyors were experienced and followed guidance that they were given for undertaking such surveys. By way of example, he referred to the fact that the surveyors had a 15 minute settling in period after arriving at the VP before beginning the watch. Hence the surveyor was not moving around, not only during the watch but also before it as the surveyor becomes habituated within the surroundings before the survey begins. Dr Grant also confirmed that he had no reason to believe that the anomalous result was attributable to surveyor disturbance. During the questioning of Dr Douse in relation to the relevant guidance from SNH on survey work, he

confirmed that it was not part of SNH's case that the applicant and RPS had not used appropriately qualified surveyors¹⁶⁷.

5.112 RPS and the applicant have previously advised SNH that it is their considered opinion that the anomalous result is attributable to the fact that the breeding habitat in proximity to the VPs is less suitable. This has been demonstrated by scientific analysis and modelling work. The key supporting evidence for the applicant is:

- SSE_11.52¹⁶⁸ (section 3) presents the detailed supporting analyses for this. Paragraphs 3.1 – 3.6 describe the methods by which the analyses were undertaken to determine the relationships between greenshank habitat suitability and distance from VPs. Table 3.1 and Figure 2 present the results that show that greenshank habitat suitability is low, close to most of the VPs. This evidence was not challenged in cross-examination nor was any scientific basis put forward by Dr Douse when he came to give evidence that provided a basis for rebutting the conclusions of that scientific study carried out by RPS and Dr Grant.
- SSE_11.56¹⁶⁹ (section 4) presents the details of how greenshank habitat suitability was mapped across the site as a preliminary exercise in the analyses that is contained in SSE_11.52.
- SSE_11.89¹⁷⁰ is a scientific paper produced by RSPB and published in the *Journal of Applied Ecology* that Dr Grant relies upon and made use of in his analyses and modelling. It describes the relationship between habitat variables and the occurrence of breeding greenshank, so providing the basis for SSE_11.56.

5.113 None of this work was challenged. No issues were raised as to the validity of the source material used for the analyses contained in Dr Grant's inquiry report SSE_11.52. The submissions made by SNH following the inquiry in relation to this issue, and the continued characterisation of the flight data in the 0–250 metre band as "significantly unreliable", are seriously flawed. Apart from the fact that SNH does not have from Dr Douse a sound evidential basis for the submission (SNH having lead no evidence to substantiate the assertion that the anomaly is attributable to surveyor disturbance), they are also based on a failure on the part of the SNH inquiry team to understand the evidence presented in SSE_11.52 and explained by Dr Grant. SNH has completely misunderstood that the issue of using data related to a surrogate species from the Viking work, for the purpose of calculating the distance detection correction has no bearing on the resolution of this issue. The lack of appreciation as to the purpose of the work reported upon in SSE_11.52 was apparent from the cross-examination of Dr Grant. When it was put to Dr Grant that he ascribed the low level of activity in the 0–250 metre band to the nature of the habitat in that distance band, Dr Grant replied in the affirmative and added that there was a very rational reason for that conclusion that was backed up by analysis. SNH then asked Dr Grant where this could be found and was referred by the witness to section 3 of SSE_11.52. SNH do not appear to be aware of that analysis and did not cross-examine on the analysis that is contained in section 3 of SSE_11.52. Indeed, it was suggested by SNH that it may not matter what was to be taken from that document because Dr Grant did not use the data from the 0–250 metre band in his distance detection correction. The

¹⁶⁷ See also the discussion of SNH's position in RPS (2015b) *An Assessment of Flight Activity of Greenshank in relation to Strathy South Wind Farm*. [SSE_11.52]

¹⁶⁸ RPS (2015b) *An Assessment of Flight Activity of Greenshank in relation to Strathy South Wind Farm*. [SSE_11.52]

¹⁶⁹ RPS (2015d) *Habitat Suitability and Greenshank Distribution Relating to Strathy South Wind Farm*. [SSE_11.56]

¹⁷⁰ *Modelling edge effects of mature forest plantations on peatland waders*. [SSE_11.89]

reasoning set out in the closing submissions from SNH, confirms that the materiality of SSE_11.52 had been overlooked by SNH in relation to this issue, relying instead upon a flawed understanding of the evidence of Dr Grant in relation to the calculation of the distance detection correction.

5.114 While both issues are addressed in Dr Grant's inquiry report SSE_11.52, SNH's inquiry team quite clearly do not understand, or choose not to understand, that Dr Grant did not make use of the data of relevance to the 0–250 metre band in calculating the distance detection correction because the existence of the anomaly made it unsuitable for the purpose of the particular exercise being carried out; not because he considered it unreliable. In essence, the anomaly rendered the data less suitable for the calculation of the distance detection correction factor. Based on the experience that had been gained by the ornithologists working on the Viking project in relation to the correlation between bird size and detection rate, a surrogate species (golden plover) was used for the separate exercise of calculating the distance detection correction in the 0–250 metre band. It is clear that this is what Dr Grant was explaining to Mr McKenzie during his cross-examination. Regrettably it was clear from the way in which Mr McKenzie conducted the cross-examination of Dr Grant that he had misunderstood what he should take from Dr Grant's explanation, or, the significance of the habitat suitability analysis contained in section 3 of SSE_11.52. It can now be understood from the reasoning in SNH's closing submissions that it has been labouring under the mistaken belief that the fact Dr Grant did not use the data from the 0–250 metre band is, by itself, determinative of the question of whether or not SNH is justified in treating that data as unreliable. This is incorrect.

5.115 Unfortunately it appears that SNH do not appreciate and understand that it does not follow that because the data for 0-250 metre band was not used for the calculation of the distance detection correction that it follows that Dr Grant considered the data was unreliable. That proposition was never put to either of the applicant's two witnesses who gave evidence on this issue. It is not suggested that there has been a deliberate attempt by SNH to mislead as to what should be taken from the evidence on the reliability of the data in the 0-250 metre band, because it is accepted that the lawyer's understanding of such technical matters necessarily is dependant to a significant extent on the understanding of, and technical/scientific explanation provided by, the expert witness. In that regard, reference is made to the occasions during Dr Douse's evidence when Mr McKenzie disagreed with his own witness when Dr Douse made a statement in evidence that contradicted what he had previously told Mr McKenzie. By way of example, during the discussion over the anticipated change in the avoidance rate for red-throated diver, Dr Douse initially disavowed all knowledge that SNH was considering moving from the default rate of 98% to as much as 99.5%. In response Mr McKenzie reminded Dr Douse that he was shown the relevant documentation that showed SNH was intending to make such a change.

5.116 On the point in question, it is submitted that SNH has never been prepared to accept that there is an entirely logical and justifiable reason for this anomaly in the 0–250 metre band at this site, because of the low suitability of habitat for breeding greenshank in proximity to the VPs. Despite the fact that SNH accepts the preferred habitat of greenshank is boggy ground which tends to be found in the low lying areas, rather than the elevated ground on which the VPs were located (see paragraph 3.3 of Dr Grant's precognition¹⁷¹), it

¹⁷¹ Dr Grant's precognition.

continues to fasten on to its speculative belief that the anomaly is due to the data being unreliable through surveyor disturbance.

5.117 Faced with a steadfast refusal to accept the entirely logical and justifiable explanation provided by the applicant based on the knowledge of RPS and Dr Grant as to the characteristics of the habitat observed on the ground around the VPs, the applicant commissioned RPS and Dr Grant to carry out further scientific analyses and modelling to test the reasoning that the anomaly was attributable to low habitat suitability around the VPs. It is on the basis of that scientific work (SSE_11.52) that both Dr Grant and Mr Scott are absolutely certain that the data in that band is perfectly reliable and suitable for use in the CRM. As noted above, Dr Grant was not challenged as to the robustness of his conclusions or the supporting detail provided in the three inter-related inquiry documents discussed above. He was not asked anything about the discussion in section 4 of SSE_11.56 on the habitat suitability modelling that had been carried out. SNH's closing submission also discloses a similar inability to understand the whole process of producing the distance detection correction.

5.118 In conclusion on this issue, in explaining how the distance detection correction was calculated, Dr Grant was not in any way suggesting that for this important part of his contribution to the CRM, he had discarded the site data for the 0–250 metre band as unreliable. At no point in his evidence did he agree that it was unreliable, as confirmed in paragraph 2.15 of his report SSE_11.52 in which it is stated that there is no more reason to expect disturbance at Strathy South than any other site at which VP surveys have been undertaken, given that it is not disputed that it was carried out in accordance with SNH guidance. He was not challenged on that statement. Furthermore, on the basis of his own work as described in SSE_11.52, and the related supporting documents, it is submitted that there is a sound scientific reason for concluding that the anomaly in the data is indeed due to the unsuitability of the habitat around the VPs and no reasonable scientific doubt remains in relation to the cause of this anomaly. Consequently, there is no reason to doubt the reliability of the data related to the 0–250 metre band. It follows from these findings that the submissions made in relation to SNH's position on this issue as to the reliability of the data for the 0–250 metre are fatally flawed and predicated upon a failure to understand the technical and scientific evidence of Dr Grant and RPS.

Greenshank - estimation of collision mortality (collision risk)

5.119 In relation to this sub-topic, the following points are key:

- Many bird species have been found dead at or around wind turbines; never a greenshank, and rarely any close relatives of greenshank. This fact concurs with the low collision estimates presented by the applicant's experts.
- The collision risk assessment is based upon extensive field data collected over several years and assessed using best practice methodologies, and by following the approach to collision risk modelling recommended in the SNH guidance. Critically, it uses measurements of flight activity from the actual site.
- The issues resulting from the apparent increase in the detectability of greenshank with distance from the vantage point (bands A and B) have been addressed through a detailed analysis that calculates a correction factor to account for this effect. The approach taken to calculating the distance detection correction closely follows the approach recommended by SNH, who acknowledged in their consultation response on the RSP inquiry reports ("FEI (2015)") response (FEI 1)

that the distance detection analyses were now on a stronger footing. During cross-examination, Dr Douse stated that he had residual concerns in relation to the distance detection correction but was unable to identify what these are. In contrast, Dr McCluskie stated agreement with the distance detection correction.

- After applying the distance detection correction, the estimated greenshank collision mortality remains very low.
- The prediction of low collision mortality at Strathy South is in accordance with the conclusions of greenshank expert Professor Des Thompson of SNH, for greenshank impacts at Achany wind farm. Conversely, this illustrates the inconsistency of SNH's position.
- SNH raised concerns over the fact that the collision risk modelling failed to represent the situation that would exist on the site after felling. However, SNH fail to understand that the distance detection correction references the flight activity densities to those recorded on largely open, non-forested, habitat.
- The distance detection analyses also demonstrate that the greenshank distance detection correction closely matches the value that would be expected for a bird of this size, when comparisons are made for other species using data from non-forested habitat.
- Furthermore, despite the existence of several areas of previously felled forestry within the Flow Country (including on RSPB's Forsinard reserve), no evidence of colonisation of felled areas by greenshanks was brought before the inquiry by either objector, despite their obvious ability to collate and present such evidence.
- The alternative (MacArthur Green) estimation exercise presented by SNH is not based on data from the development site or on any actual measurements of flight activity. During cross examination SNH accepted it was preferable to use site-specific data. There are several important errors in the assumptions of this model that lead to a very large overestimation of collision risk.
- Despite lack of evidence for greenshank colonisation of felled areas, the MacArthur Green model assumes higher densities than exist in the non-forest habitat surrounding the development site, and assumes a uniform distribution across the development site (which is unlikely given that habitat recovery is expected to be variable and patchy for first decade at least). Extrapolating from the model assumptions gives an SPA population of 1455 pairs, which is more than twice the estimated 653 pairs.

5.120 So far as issues that are specific to the collision risk modelling work itself are concerned, the key points are summarised above so that it is clear which parts of the evidence on CRM the applicant would invite Scottish Ministers to have particular regard to for the purposes of resolving the issues between the parties that underlie whether the applicant's experts have significantly underestimated collision mortalities. Emphasis is added in relation to the magnitude of the underestimate that would have to be demonstrated by the objectors for there to be a population effect, under reference to the submissions already made above.

5.121 Having addressed the main issues raised by SNH in relation to the VP survey work, the outstanding topics that relate to the estimation of collision mortality are:

- The use of the distance detection correction.
- The potential for colonisation of the development site.
- The validity of SNH's alternative modelling and over-estimate of mortalities.

Greenshank - distance detection correction

5.122 The background to the development of the distance detection correction factor has already been covered, in the preceding section addressing questions such as the effect of trees in the viewshed, and Dr Douse's concern that greenshank flying in the fourth distance band, particularly toward the 2 kilometre extremity, would not have been detected. In this section the discussion is primarily directed toward SNH's position in closing submission. Just as it was not considered at the conclusion of Dr Grant's evidence that he had been faced with any serious challenge as regards the scientific analysis of the relationship between low flight activity and habitat suitability around the VPs (SSE_11.52), it was also not considered that there was any serious challenge to Dr Grant's calculation of the distance detection correction factor. This was also explained in the same RPS inquiry report for which Dr Grant had been the main author. It is submitted that when one considers the reports that Dr Grant spoke to in evidence, it is immediately apparent why it is that Dr McCluskie holds him in high regard and describes him as a serious scientist. The description of how the distance detection correction ("the correction factor") was calculated is provided in section 4 of SSE_11.52. As already stated, but it is worth repeating, Dr McCluskie confirmed in his evidence that he took no issue with Dr Grant's work on the correction factor.

5.123 Dr Grant confirmed to SNH that he had contributed to the 2013 ES addendum and the FIE (2014) on distance detection correction. In cross-examination, Dr Douse was taken through the chain of correspondence with SNH during the consultation period from submission of the ES addendum, up to the SNH's FEI response (FEI 1)¹⁷². This line of cross-examination was pursued to establish the exact nature of the outstanding concerns at the time it was decided by SNH at different stages of the consultation process, to maintain its objection. It will be noted from page 10 of SNH's consultation response on the 2013 Addendum (SSE_11.136¹⁷³) that SNH sets out the basis upon which it questions whether or not the use of flight activity in the 0–500 metre band is likely involve an underestimate. This concern is further amplified upon in a letter of 6 February 2014 (SSE_11.137¹⁷⁴), at which time it is explained that the main reason for the concern is over whether or not the modelling of detectability distances is undermined through the use of data from the 0–250 metre band, which SNH believed was an underestimate of flight activity due to observer disturbance. It was this issue that Dr Grant was addressing in his subsequent work. While he did not consider that the anomaly was due to surveyor disturbance, he did accept that it had the potential to distort the calculation of the correction factor. Reference is made above, refuting the suggestion by SNH in closing submission that Dr Grant had accepted that the data was not reliable by not using it in calculating the correction factor.

5.124 Further insight as to the reasoning that lies behind SNH's position on the correction factor comes from the further response from SNH on 30 April 2014 (SSE_11.140¹⁷⁵). At that time it is apparent that SNH has not ascertained for itself that the correction factor is open to doubt, but continues to question if it might be if the method used by RPS to correct for detectability declining with distance is open to question in any way. It will be appreciated that the reason that Dr Douse was taken through this correspondence was to seek to ascertain the basis of SNH's outstanding concerns, at the different stages following its review of new information provided by the Applicant. It was also to establish if SNH had

¹⁷² SNH response to FEI.

¹⁷³ Formal response from SNH. [SSE_11.136]

¹⁷⁴ Response from SNH. [SSE_11.137]

¹⁷⁵ Response from SNH. [SSE_11.140]

ever put forward a reasoned scientific basis for rejecting the additional work carried out by the Applicant's experts, to address SNH's concerns. That story continues through subsequent exchanges and on 21 August 2014, SNH's Operations Manager advises the applicant that it is considered that discussions over greenshank and red-throated diver have reached a stalemate. Because an inquiry had been triggered by that stage as a consequence of THC's objection (based on SNH's advice and continued objection to Strathy South), it was stated that no further meeting was required and that SNH was proceeding on the basis that parties were preparing for inquiry.

5.125 There is then a consultation on the FEI (2014) at which time, January 2015, SNH indicates that its objection is based on the proximity of breeding pair territories to turbines and SNH's concern is that it is not certain that the centre of the territories are within 800 metres of turbines (SSE_11.144¹⁷⁶). The question of identifying the centres of territories is discussed in different consultation responses and exchanges of correspondence between the Applicant and SNH from submission of the ES Addendum. It is apparent from the notes of the meeting that took place on 21 October 2014 (SSE_11.146¹⁷⁷) that the applicant and its experts were questioning the justification for an 800 metre standoff. Notwithstanding the attention that SNH gave to this issue during consultation, it has not been mentioned in SNH's topic paper and it seems to have been dropped in favour of the argument that the CRM does not take account of densities of greenshank on site once the wind farm is operational. Finally, SNH submitted its consultation response on the RPS inquiry reports, which were all treated as further environmental information (FEI (2015)). This is contained in FEI 1, in which there is discussion of SSE_11.52 but the reasons given in that document for rejecting the new work are not substantiated in evidence at inquiry. The propositions contained in Annex 2 were simply put to Dr Grant, without any evidential basis to support what were unsubstantiated and theoretical alternative assumptions. Dr Grant noted in his evidence-in-chief that he was pleased that SNH had at least recognised that his work in SSE_11.52 put the distance detection correction factor "on a stronger footing".

5.126 Against that background, just as with the position on the reliability of the data for the 0–250 metre band and the misconceived reliance of Dr Grant's explanation of the use of data related to a surrogate species to calculate the correction factor, it was astonishing to read the closing submissions made on behalf of SNH in relation to this issue. The assertion that the correction factor was not calculated using the "usual methodology" displays a failure to understand Dr Grant's explanation as to the justification for using data related to a surrogate species. Also, Dr Grant was not cross-examined on the proposition that the use of data relating to a surrogate species was not acceptable and would distort the calculation. All that was established from the questions put in cross-examination was that on the basis of the work carried out in relation to detectability as part of the Viking project, Dr Grant had relied on that work for correlation between bird size and detection, and, for that reason, had selected golden plover as the surrogate species. It was not put to him in cross-examination that the selection of golden plover as the surrogate species was inappropriate. All that was put to him was that he used golden plover because it was surveyed in the Viking study. It was not suggested that the use of that species as a surrogate would result in any distortion in the calculation when used for greenshank. When considering SNH's closing submissions on this issue at paragraph 10.21, it is of importance that Mr McKenzie did not put the assertion relied upon in submission to Dr Grant; namely, that golden plover was not an appropriate surrogate. There is no evidence to this effect from SNH despite the fact that

¹⁷⁶ From SNH following October 2014 meeting. [SSE_11.144]

¹⁷⁷ Approved meeting minutes. [SSE_11.146]

SNH had SSE_11.52 in advance of the inquiry. The implications of using golden plover rather than greenshank were not explored in cross-examination.

5.127 Separately, it is suggested at the end of paragraph 10.20 of SNH's submissions that the absence of recorded flights in the fourth distance band of 1-2 kilometres has the biggest effect on the calculation of the correction factor. This not only discloses an incredible lack of comprehension in that the whole point of the correction factor is to address the lack of detection in this furthest distance band, but, this was not put to Dr Grant and there is no evidential basis at all for the submission. It was submitted that all of the discussion in SNH's closing submissions that follow on from paragraphs 10.19 onwards is seriously flawed insofar as it depends upon a belief that there was agreement that the data in the 0-250 metre band was unreliable, and, that the correction factor cannot be accepted because of the unsubstantiated claim that golden plover is not a suitable surrogate species; a suggestion never put to Dr Grant. The first of the two issues is addressed in relation to the assertion by SNH that the survey data in that distance band is unreliable because of surveyor disturbance. The second issue was developed in closing submission as being an issue of fundamental importance to SNH's final position as to its reason for continuing to question the reliability of the distance detection correction factor. This is despite the fact it is a consideration that is not supported by sound evidence and is based on speculation by Dr Douse that the use of data in respect of a surrogate species in some way undermines the calculation. Yet again, SNH's discussion of its residual concerns, either in evidence or in submission, discloses an astounding lack of comprehension.

5.128 For all of these reasons, the reasoning set out in the closing submissions for SNH on these issues should be rejected for the reasons that:

- There is no scientific basis in the evidence presented for SNH (notwithstanding that Dr Douse had accepted in cross-examination that it was reasonable to expect that SNH would provide a reasoned scientific basis for rejecting the conclusions in the RPS inquiry reports).
- As a matter of fairness the propositions now relied upon were not put to Dr Grant and therefore the submissions now made by SNH can only be based on supposition that Dr Grant would have agreed to the propositions contained within the reasoning, even although it runs counter to the discussion in SSE_11.52 and the conclusions he expressed in his precognition and evidence to the Inquiry.
- The "advice" given by SNH on technical and scientific issues in dispute is unreliable having regard to the number of times SNH's assertions in that advice have been shown to be without foundation. In that regard, the applicant also relies upon the number of times that SNH has kept "moving the goal posts" since submission of the addendum in 2013, followed by the FEI (2014), and continued to attempt do so even at the Inquiry. It was submitted that this is not reflective of the approach that one would expect from a statutory consultee that has a reasoned cogent basis for its position that the CRM is not reliable.

5.129 There is a sound basis for preferring the evidence of Dr Grant in relation to the correction factor. His work as described in SSE_11.52 was not undermined in cross-examination or by the presentation of any contradictory scientific evidence from SNH. He is a very experienced ecological statistician whose work is well respected, and, he has the detailed understanding of the behavioural and flight characteristics of greenshank to inform his judgement as to the reliability of the work that he has carried out. The fact that Dr Grant has such a high degree of confidence in the correction factor is sufficient in the

circumstances discussed. There is simply no proper basis for rejecting the evidence of a highly qualified and experienced scientist on this issue in preference for Dr Douse's doubts.

Greenshank - colonisation of the proposed wind farm site

5.130 It is asserted by SNH that the CRM carried out by the applicant's experts significantly undermines the estimated collision mortalities by virtue of the fact that it does not take account of habitat change. SNH's assumptions as to the increase of density of breeding pairs within the footprint of the wind farm is one of the main assumptions in the MacArthur Green alternative collision estimation exercise that gives rise to such a high alternative collision rate. While a cynic might consider that each time the applicant solved one problem, SNH created another for the applicant to solve, leaving aside such speculation as to what lies behind SNH's ever changing position during the consultation process, what is clear from the perusal of the consultation correspondence that was carried out with Dr Douse is the apparent significance of the fact that this "uncertainty" emerged very late in the lengthy and extensive consultation process.

5.131 The discussion with Dr Douse in cross-examination in relation to the course of correspondence with SNH providing consultation feedback, established that following submission of the ES Addendum, the principal position of SNH was that displacement was unlikely but that a buffer of 800 metres around each turbine was recommended to reduce the risk of collision mortalities. Dr Douse confirmed that this was SNH's position and that at that time SNH had concluded that the proposal would not affect the population of the SPA if a condition to that effect was imposed (SSE_11.136¹⁷⁸). The note of the meeting on 21 October 2014¹⁷⁹, confirms that at that stage, the question of colonisation and the need for the applicant's CRM to specifically address this habitat change, was still not an issue. Indeed, the issue of concern throughout the consultation period was focussed on the assessment work related to existing territories, not the need to address the likelihood of establishment of new territories.

5.132 The issue came to be raised for the first time in the topic paper for the inquiry (SNH O-52¹⁸⁰) and is referred to in the consultation response on the RPS inquiry reports, FEI 1. It is predicated to a large extent on SNH's assertions in the lead up to the inquiry that the density and abundance of greenshank within and near the development site is particularly high even in the context of the SPA. RPS therefore carried out modelling work to test that assertion by SNH regarding density and abundance; SNH not having provided any scientific study of its own to support its new concern regarding density and abundance, and resultant colonisation. The purpose of the work presented in the RPS inquiry report SSE_11.56¹⁸¹ was to explain the scientific basis upon which that assertion was dismissed. It is explained in the report as a null hypothesis, and RPS tested two other hypotheses related to the suggestion of rapid colonisation of the development site following removal of the forest. These are set out in paragraph 1.8 of the report. For the reasons given in that section, RPS concluded that all of the hypotheses upon which SNH's claim of rapid colonisation depends, fell to be rejected when assessed objectively under reference to appropriate habitat suitability modelling. It is relevant to note that in FEI 1, which was submitted shortly before the inquiry, that SNH does not understand the purpose of that modelling work.

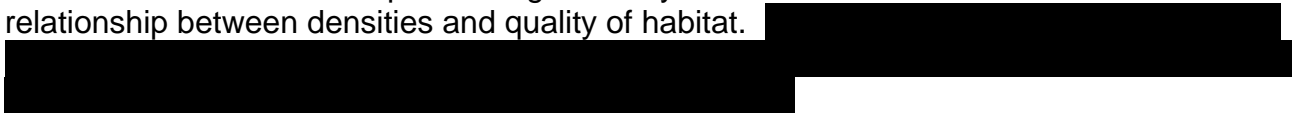
¹⁷⁸ Formal response from SNH (pages 10 to 11). [SSE_11.136]

¹⁷⁹ Note of meeting 21 October 2014. [SSE_11.146]

¹⁸⁰ SNH Topic Paper. [SNH 0-52]

¹⁸¹ RPS (2015d) Habitat Suitability and Greenshank Distribution Relating to Strathy South Wind Farm. [SSE_11.56]

5.133 Notwithstanding this persuasive evidence from RPS, and in the absence of any proper analysis of its own, in closing submission SNH doggedly clings to its assertion that the area around the footprint of the proposed wind farm is of particular importance to greenshank based upon SNH's understanding of the relative abundance and density of greenshank. This is to be found in paragraph 10.9 of closing submission from SNH, and it should be noted that the densities quoted in that paragraph do not match those presented in SSE_11.56. The suggestion that it does not matter that there are areas within the SPA with much higher densities on the purported basis that this is irrelevant for the purposes of an appropriate assessment, demonstrates that either Mr McKenzie or SNH, or both, simply do not understand that the point being made by Mr Scott in evidence is that there is a relationship between densities and quality of habitat.



5.134 The reasoning of SNH in paragraph 10.10 of its closing submission ignores the fact that SSE_11.56 was prepared for the purposes of presenting to the inquiry, the work carried out by RPS to test SNH's assertions that underlie its claim that rapid colonisation of the wind farm is very likely, having regard to the abundance and density of greenshank around the site. The position of SNH in FEI 1 under reference to this report is to assert that juveniles from the breeding pairs around the wind farm site will quickly colonise within the wind farm, thus putting them at risk of collision. The reasoning in paragraph 10.10, ignores the conclusions of the report that SNH's assertions, regarding the unusually high density of greenshank around the site apparently having led to underestimation of collision risk, are not supported by scientific analysis. While there is an acceptance by SNH that there is an absence of "quantitative studies" to support SNH's advice (paragraph 10.12), there is a continued reference to published literature that is not specific to the development site and relies almost exclusively on the generic information quoted in the alternative collision risk estimation produced by MacArthur Green (SNH O-44¹⁸²). As Dr Grant pointed out in his evidence on more than one occasion, that behavioural information comes primarily from the Nethersole-Thompson book that cannot be treated as scientific data and cannot take the place of site-specific systematically collected data for the purposes of producing reliable collision mortality estimates. It was emphasised that in this regard the applicant's position is supported by SNH guidance whereas SNH's approach is not. The same comment applies to the information that MacArthur Green apparently obtained from SNH's greenshank expert, Professor Thompson. Apart from the point made earlier as to the limited weight that can be attached to Professor Thompson's "contribution" to the understanding of Professor Furness and Dr Trinder as to the relevant characteristics of greenshank, standing the absence of all of them from the inquiry, such an exchange of generic information does not answer the point made regarding the importance of site-specific data.

5.135 Mr Scott spoke to the RPS inquiry report, SSE_11.56, in his evidence. In addition to relying upon that modelling work, he also made reference to the absence of any evidence to support rapid colonisation of deforested areas, or, that greenshank moved into operational wind farm sites. In relation to the proposition that greenshank rapidly colonise felled areas of commercial forestry plantation, neither SNH nor RSPB Scotland presented any evidence to the Inquiry to support this theory. In paragraph 10.11 of its closing submission something is made of the fact that SNH had raised this possibility in its topic paper. That is to miss the

¹⁸² Greenshank Collision Mortality Estimation. [SNH O-44]

point in that SNH did not put before the Inquiry any evidence to show that greenshank colonise such areas. Despite this becoming a central plank of SNH's case for arguing that the applicant's CRM could not be relied upon because it did not take account of the habitat change on the development site, which SNH claims will be colonised rapidly. It is not only the likelihood of such colonisation occurring that is in issue but also the timescale within which it might be expected to occur. Reference was made in the applicant's case to the failure of either SNH or RSPB Scotland to bring forward evidence from Forsinard, despite the fact there has been substantial forestry clearance within the site as a consequence of RSPB's management objectives.

5.136 In contrast, Mr Scott pointed to the absence of any evidence of colonisation at Rosehall, which had been an afforested site prior to development. He also pointed to the absence of evidence from both Achany and Rosehall, following upon development, of juveniles moving into the wind farm site from the surrounding SPA. This analysis of greenshank behaviour was based on detailed post-construction monitoring carried out at Achany and Rosehall. In cross-examination, Mr Scott emphasised on more than one occasion [REDACTED]

[REDACTED] Yet again another example as to the effort that the applicant's experts have put into scientific study to test SNH's assertions in stark contrast to the complete lack of study by SNH or RSPB Scotland on this issue. This approach is to be contrasted with the complete absence of evidence to support the assertion that it is a serious and significant omission in the CRM, not to have taken account of the habitat change on the development site. This argument should be rejected as having no evidential base and moreover, the properly researched scientific evidence placed before the inquiry by the applicant leads to the opposition conclusion. Furthermore, this issue, which has been described by Mr McKenzie and Dr Douse as being of fundamental importance to the question of whether or not the CRM is reliable, was not mentioned at all during the whole of the consultation process. It appears to have been thought up just prior to the inquiry, emerging as it does for the first time in Dr Douse's topic paper. It was considered amazing that an issue of such fundamental importance was not thought about until SNH had to prepare its case to defend its maintained objection on the ground of adverse effect on greenshank.

5.137 As regards timeframe there is no evidence to support "rapid" colonisation and in our submission, the relevant timeframe for establishment of habitat that may prove more attractive to greenshank is that spoken to in the evidence of the applicant's witnesses. Dr Dargie explained that the approach to re-profiling of the site following felling could be carried out using techniques that would minimise the creation of pool systems favoured by waders. This issue is of relevance to the question of population effect spoken to in evidence by Dr Grant.

Greenshank - SNH's alternative collision estimation

5.138 It is SNH's position that an alternative approach to the applicant's CRM is required because of the claimed under-recording of flight activity in the site survey work, which it is claimed makes the collision mortality estimates unreliable (paragraph 169 of the topic paper). The other justification given is that the applicant's CRM does not take account of the claim that there will be a significant increase in densities of breeding pairs within the footprint of the wind farm as a consequence of colonisation by greenshank within the wind farm site (paragraphs 170 to 171).

5.139 Before addressing SNH's justification for instructing the alternative collision estimation contained in the MacArthur Green report (interchangeably referred to as "O-44"), there are some brief points to make in relation to the applicant's CRM. Firstly, it will be appreciated that there was very little focus on the actual CRM carried out by the applicants and which can be found at the document references for the Technical Appendices to the ES addendum and the FEI (2014). The focus was instead on the claimed unreliability of the site-specific data used in the modelling and the theory promulgated by SNH in its evidence to the inquiry that it was of fundamental importance that the effect of colonisation was modelled. Apart from that there is no detailed criticism of the CRM carried out by the applicant, other than Dr Douse's vague doubts that prevented him from accepting the distance detection correction factor. This leads to the second point which is that the CRM follows the approach to collision risk modelling that is recommended by SNH. It was not suggested that the CRM did not conform to guidance. While it was argued by RSPB Scotland that the Band model has its limitations it was not suggested that the use of it was contrary to SNH's guidance.

5.140 Thirdly, following on from the second point, of critical importance is that the applicant's CRM uses systematically collected measurements of flight activity from the actual site, the importance of which is emphasised in the paper produced by the applicant as to the use of the Band model. This paper was put to Dr Douse in cross-examination, SSE_11.8¹⁸³, and he confirmed that the authors of that paper, which included Dr Band, emphasise that the use of site-specific data is essential because there is insufficient data on most species to develop a predictive model. He also accepted that what could be taken from the list of matters in respect of which reliable estimates should be obtained from site work, page 3 of the document, that it was apparent that the use of empirical data was critical and was the source of the input assumptions used in the model.

5.141 Finally, there is no suggestion that the avoidance rate used by the applicant's consultants is inappropriate. Indeed, quite the opposite in this case as it was explained in evidence that the default rate of 98% was used and that this was considered to be precautionary. From the discussion in O-44 as to the appropriate avoidance rate for greenshank, it is of some direct significance to note that the authors of the report, Furness and Trinder, considered this rate to be over-precautionary for their modelling work because of the fact it had not been done using survey based estimates of flight activity (page 17 of O-44). The over-precautionary nature of the use of the default value for greenshank is also supported by the international database of collision victims showing a paucity of greenshank records (SSE_11.52, section 6). Dr Douse confirmed during his cross-examination in relation to SNH's proposal to increase the avoidance rate for red-throated diver, that SNH had not instructed research work in relation to greenshank.

5.142 If concluded that the issues identified by SNH, and relied upon by RSPB Scotland, have no proper foundation, and, that from an objective evaluation of the evidence presented by the applicant that there is no reasonable scientific doubt remaining as to the reliability of the applicant's CRM and prediction of collision mortalities, then it is not necessary to go on and consider the alternative modelling produced by SNH. The justification for instructing a theoretical modelling exercise that does not accord with SNH guidance disappears.

¹⁸³ Developing field and analytical methods to assess avian collision risk at wind farms. [SSE_11.8]

5.143 Separately, the modelling work reported upon in O-44 does not withstand scrutiny. There were a number of different points made by Dr Grant but there are two issues of crucial importance to the question of whether or not the collision risk estimates brought out in O-44 are reliable or credible. As a general point that should be made regarding credibility, is that the high estimates of mortality run entirely counter to the absence of any recorded collision of greenshank with turbines. Dr Douse attempted to dismiss the relevance of that fact on the basis that the absence of evidence is not necessarily confirmation of an absence of effect. While it is accepted that in science that may be true, in our submission scientific opinion depends upon taking account of a range of considerations and the fact that greenshank is not a species known to be vulnerable to collision risk, as discussed in Dr Grant's evidence, is significant to the question of whether or not the high collision mortalities predicted through SNH's alternative approach to estimating collision mortality bears any relation to reality.

5.144 Dr Grant did consider that it was of significance that apart from an absence of evidence in Scotland, there was no evidence from international data bases that would capture evidence from other countries where greenshank or their close relatives, are known to interact with wind farm sites. The applicant's experts also place reliance upon the expert opinion provided by Professor Thompson at the Achany inquiry in 2007, his precognition having been produced as inquiry document SSE_11.83¹⁸⁴. This was discussed in detail in the evidence-in-chief of Mr Scott. He explained that he considered there would be displacement up to 200 metres from turbines and he was not aware of evidence of collision risk. It was not the position of SNH at that inquiry that the possible displacement of greenshank and their loss to the SPA population was the basis of SNH's objection. No proper explanation has been provided by Dr Douse as to why he and SNH take a different approach at this inquiry in the absence of evidence that over the intervening period evidence has emerged that might indicate otherwise.

5.145 The two aspects of O-44 which Dr Grant heavily criticised was the use of generic information contained in the Nethersole-Thompson book (SNH O-36) in place of site specific empirical data, and the assumption made as to the density of greenshank within the footprint of the wind farm post-development and apparently, post-colonisation. In relation to the first of the issues raised by Dr Grant, the type of information contained in SNH O-36 cannot be equated to the scientific nature of empirical evidence gathered from systematic survey based on current SNH guidance. Dr Grant wouldn't even describe the book as a source of scientific data, it being no more than an account of general observations of behaviour. The key point that he made is that these observations were collected and reported in a naturalist style, which while very useful in some respects it is not suitable as a basis for producing quantitative models. The lack of empirical data can be properly understood when the chapter of the book is considered in the context of the Band paper (SSE_11.8) and the complete absence of any measurement of flight activity. Dr Grant explained the significance of this in his evidence and that the use of assumptions of the character he describes runs counter to SNH guidance and established practice.

5.146 Separately, for the reasons explained in the preceding submissions on colonisation, and in Dr Grant's evidence regarding this aspect of the report, neither of the applicant's witnesses accepts that the density assumption relates to reality and is simply not credible. There is no scientific basis for this assumption and it is not supported by experience at Achany and Rosehall. The evidence of Dr Grant should be preferred, as opposed to SNH's

¹⁸⁴ Proposed wind farm development at Achany Estate, Lairg, Sutherland (Thompson, 2009). [SSE_11.83]

alternative collision estimation exercise having regard to the significant issues that surround the methodology and assumptions used by SNH. The reason to refer to O-44 as being SNH's alternative approach is that in essence that is what it is. There is an attempt to put a badge of respectability on the alternative estimate of collision mortalities, and the exercise used to arrive at the estimate, by commissioning a consultancy and experts, who have an acknowledged expertise in the area.

5.147 It appears from the evidence of Dr McCluskie that he initially fell for this presentational guise of respectability. In his evidence-in-chief he suggested that the very fact two well respected experts in the field of collision risk modelling (Dr Grant and Professor Furness) had such different estimates of collision risk mortality was sufficient for him to conclude that there was enough uncertainty as to give rise to reasonable scientific doubt. In cross-examination he accepted that he was wrong to equate Professor Furness's calculation of mortalities with Dr Grant's estimate, simply because while Professor Furness may have carried out the modelling work, the critical input assumptions in that work came from SNH.

5.148 This issue is of particular importance because the best description of SNH's is that they have no more than an alternative approach to CRM that is not in accordance with SNH guidance, has been heavily criticised by Dr Grant in relation to the assumptions provided by SNH that are not based on reality, and which has produced an estimation of collision mortalities that runs entirely counter to the lack of collision mortality shown by this species. Dr Grant's criticism deserves particular weight given that SNH did not lead a scientist having the same combination of qualities and experience that Dr Grant possesses. His evidence on these issues also deserves considerable weight, given that SNH chose not to lead either of the authors of the report to speak to either the robustness of the conclusions of the approach that they have carried out using SNH's assumptions, or if they even consider that such an exercise has any utility and is fit for the purpose to which SNH seeks to put it at this inquiry. It is unknown what lies behind the last sentence in the report (at page 17), "All the remaining parameters were estimated with at least a moderate level of confidence ...". Nor has it been possible to test whether or not the statement in the remainder of that sentence "...and the collision estimates have no more than a low sensitivity to the values used.", was intended to apply to the density assumption.

5.149 For all of these reasons, and on the basis of the totality of the evidence presented to the inquiry by the applicant and its witnesses, the applicant invites Scottish Ministers to conclude that the evidence that supports the approach taken by the applicant's experts to CRM, and the CRM itself, can be relied upon for the purpose of reaching the separate conclusion that the estimates spoken to in evidence by Dr Grant are both credible and reliable.

Greenshank - habitat loss and disturbance

5.150 The following points are key to this sub-topic:

- Data collected from Achany and Rosehall wind farms suggests that greenshanks do not substantially alter their use of wind farm sites post construction compared to pre-construction, even in situations where forestry is cleared for turbines (Rosehall). These sites are located adjacent to the part of the Caithness and Sutherland Peatlands SPA that had one of the highest density of greenshank recorded in the entire SPA, higher than that recorded around Strathy South.

- There is no evidence that shows that failure of greenshanks to nest successfully because of construction and operational disturbance will occur beyond a distance of 200 metres, meaning that disturbance impacts of Strathy South on greenshank would be extremely low.

5.151 In the context of addressing SNH's specious argument that rapid colonisation of the operational wind farm site would result in high collision risk and predicted mortalities, the applicant's evidence has been set out that supports the key points summarised in the preceding paragraph. No further comment in relation to SNH's position on this potential effect is given because SNH does not argue at this Inquiry that there would be habitat loss or disturbance. This is for obvious reasons as it would conflict with its primary argument that there will be colonisation of the wind farm site by greenshank post-construction.

5.152 However, RSPB Scotland raises the issue of displacement in its topic paper. Therefore, it is appropriate to set out the basis upon which the applicant rejects out of hand the assertion that displacement of greenshank from the development site would result in an unacceptable impact on the SPA population of greenshank. RSPB Scotland appears to no longer maintain this ground of objection, the applicant seeks nonetheless to address it as there is a concern that if the issue is not addressed in the report, notwithstanding the apparent abandonment of this ground of objection in closing submission, at a later stage RSPB Scotland may contemplate seeking to base a legal challenge on an alleged failure to take into account a relevant and material consideration raised by it in its objection.

5.153 The considerations relevant to a finding that possible displacement from the development site would not have an adverse effect on the SPA population are the following:

- RSPB Scotland does not present any scientific evidence in support of its objection on the ground that displacement will lead to an unacceptable loss of greenshank from the SPA.
- The suggestion in RSPB's topic paper that there will be displacement from the development site and greenshank will be lost from the SPA is no more than assertion.
- That assertion is contradicted by the environmental information presented by the applicant and spoken to in evidence by Dr Grant. The considered opinion of the applicant's experts is that even if displacement from the site occurred, the displaced birds would not be lost to the SPA as it is considered "certain" that there is sufficient carrying capacity within the SPA to absorb any birds displaced, if displacement did occur. This conclusion is to be found in Table 9.4 of Technical Appendix 5.2 of the Further Information Report, CD_5.2, at pages 48 & 49 of the Technical Appendix. Dr Grant was taken to this part of the report in his evidence-in-chief to confirm the conclusion brought out from the assessment against the relevant conservation objectives, in relation to both construction and operation. RSPB Scotland did not seek to challenge Dr Grant's evidence in relation to any displaced greenshank simply being displaced into the adjacent SPA. There is no evidence from either objector that calls into question the conclusion that there is sufficient carrying capacity within the SPA to absorb any birds displaced from the development site.
- Given that the development site is surrounded by the SPA, it is obvious that displacement from the development site into the adjoining SPA would not result in loss of greenshank from the SPA population.

- The evidence presented by RPS in its inquiry report that details the use of the wind farm sites at Achany and Rosehall, SSE_11.51, spoken to in evidence by Mr Scott, leads to the opposite conclusion.
- The assertion of RSPB Scotland is not supported by SNH, who appear to accept that the evidence from these two wind farm developments shows that displacement is unlikely (see paragraph 194 of SNH's topic paper). This is also consistent with the evidence given by Professor Thompson at the Achany inquiry. It is also not surprising that RSPB's claim of displacement of greenshank from the development site is not supported in SNH's evidence, given that a substantial part of SNH's case is predicated, on a diametrically opposed argument that following removal of the commercial forestry and development of the site, greenshank will colonise the site.

5.154 Taking all of these considerations into account, on a fair analysis of the evidence there is good reason for RSPB Scotland to have abandoned the argument based on potential displacement from the development site having an adverse effect on the SPA population of greenshank. These considerations also provided good reason not to cross-examine Dr McCluskie on this unsubstantiated assertion, preferring instead to rely on the unchallenged evidence of Dr Grant and separately, the evidence of Mr Scott. Therefore, the applicant's evidence should be preferred. The conclusion that there is no uncertainty as to whether or not displacement of greenshank from the development site would have an unacceptable effect on the SPA population of greenshank should be endorsed. The reliable evidence before the Inquiry weighs in favour of concluding that displacement of greenshank from the development site is not an issue.

Greenshank - assessment against designations and appropriate assessment -population level effects

5.155 The following key points are made:

- Based on SNH's assertions regarding adult survival and chicks fledged per pair: 980 birds of the SPA breeding greenshank population (i.e. not including non-breeders) survive every year and fledge 441 chicks. Given the very small collision estimate, it is difficult to see how the wind farm could have a population level effect if this is true.
- The estimated mortality of greenshank due to the proposed wind farm is small relative to the SPA population and represents a tiny proportion of the population, even after applying the distance detection correction and even when summing the estimated annual collision mortality over the 25 year life time of the wind farm. The collision mortality estimate can be multiplied by more than a factor of 10 and it still remains insignificant in terms of population impacts, before even factoring in any growth in the greenshank population in the meantime.
- The SPA greenshank population is considered to be in favourable condition, suggesting that there are no reasons to be concerned by the very small level of mortality predicted to arise from collisions.

5.156 Submissions have already been made on greenshank, as to the significance of the very small estimates predicted by the applicant's witnesses in terms of population effect. In that connection reference was made to the evidence of Dr Grant and the absence of any quantification from SNH as to what would constitute a threshold of the population above which there would be a population effect that would be contrary to the first conservation

objective. During my questioning of Dr Grant, he explained the basis upon which he did not consider population modelling would be appropriate in this case. The main parts of the evidence that he relies upon in relation to his evidence on population effect is summarised above in the key points. In the situation that pertains in relation to the objection in respect of greenshank, it is submitted that this issue can be addressed by looking at the size of the population and predicted impact. While he accepted that the loss of 10 to 19 birds per annum would have a significant adverse effect on the SPA population, it is to be noted that Dr Douse agreed during my questioning, that it was appropriate to half that number given the view of the authors of O-44 that the use of 98% avoidance rate was not appropriate, for reasons discussed above, and that it was their view 99% was the appropriate rate. However, Dr Douse then went on to contend that SNH considered that 5 to 9 mortalities per annum would be significant and have an adverse effect on the SPA population but as has already been noted this opinion is not vouched by scientific study and has to be considered in the context that this species is in favourable conservation status.

5.157 It would not be appropriate to make a finding that any residual concerns that SNH has would justify drawing a line in the middle between the applicant and SNH's prediction of mortalities, or, at what point there would be a population effect. Apart from the fact such an approach is not scientific and not supported by any relevant guidance, in our submission it is unnecessary to adopt such an approach. There is a sound scientific basis, explained above with both detailed and outline summaries of the relevant evidence, where appropriate, upon which to conclude that not only is the applicant's CRM reliable but also that the SNH alternative "modelling" is fundamentally flawed to such an extent that it is neither reliable nor credible. Dr Grant has no doubt as to the reliability of the estimations of mortalities and he has no doubt over how that translates into a population effect, the result of which there would have to be gross errors in the CRM to make a difference. For the reasons given there is no evidential basis to support findings that any such gross errors have resulted in underestimation that is of significance to Dr Grant's conclusion that there would not be a population effect resulting from the construction and operation of Strathy South.

5.158 Because collision risk, habitat loss, disturbance and displacement for this species would be very small should consent be granted, conservation objective 1 will be met. The proposed wind farm would not affect the distribution of species that currently exist within the site, thus conservation objective 2 would be met should consent be granted. Disturbance of greenshanks would be well below a significant level should consent be granted, therefore conservation objective 5 would be met. Conservation objectives 3 and 4 would also be met should consent be granted. This assessment is contained in Table 9.4 in the Technical Appendix 5.2 to the FIR (2014)¹⁸⁵.

5.159 Under reference to the submissions made above, as to the correct approach to applying the legal tests contained in Article 6(3) of the WBD, it has been ascertained from the scientific assessment carried out by RPS that Scottish Ministers can be certain that the integrity of the site would not be adversely affected as a consequence of the predicted impacts on greenshank. In reaching this conclusion regard should be had to:

- The considerations set out above that are of relevance to the assessment of the weight that can be attached to the evidence produced and relied upon by the Applicant and its expert witnesses, as discussed in this section in relation to the

¹⁸⁵ FIR technical appendices (2014). [CD_5.2]

particular controversial issues in the evidence concerning the predicted impact on greenshank, and the implications for the SPA.

- The evidence of Mr Scott and Dr Grant, produced in writing and oral evidence, together with the supporting inquiry documents that they have relied upon in their consideration of the issues. In addition, the applicant would invite Ministers to have regard to the confidence with which they gave their evidence and their unshakeable belief that there was any reasonable scientific doubt associated with the conclusions expressed in their evidence.
- This is to be contrasted to the manifest lack of understanding on the part of SNH as exposed through the cross-examination of Dr Douse, and the closing submissions on important issues relied on by Dr Douse that have been shown to be incorrect and not supported by the evidence. As to demeanour, in our submission Dr Douse was often equivocal rather than straight-forward and confident on important issues, and, his changing advice throughout the consultation process and at inquiry also supports the conclusion that his evidence should not be preferred to that of the applicant's witnesses. The position of RSPB Scotland depended upon SNH's position in relation to collision risk and if it maintains an objection in relation to displacement it has no site-specific evidential basis for doing so. The minimal "evidence" in the topic paper is far outweighed by the substantial body of evidence produced by the applicant and its experts that leads to the opposite conclusion.
- The careful analysis of the evidence that is provided in the preceding discussion in this section.
- The considerations founded upon in this section of the submission that demonstrate that the objections from SNH and RSPB Scotland in relation to greenshank are completely lacking in substance and credibility. In particular, it was submitted that the specific grounds of objection, do not give rise to any reasonable scientific doubt as to the implications for the integrity of the SPA; it will not be adversely affected as a consequence of the predicted impacts in respect of greenshank.

5.160 On that basis it was submitted that Scottish Ministers are entitled to conclude that the assessment against the conservation objectives that is provided in Table 9.3 and supported by the evidence of both Mr Scott and Dr Grant, can be relied upon and that no reasonable scientific doubt remains.

RED-THROATED DIVER

5.161 As before in relation to greenshank, this section begins on the topic of impact on red-throated diver by considering the inter-relationship between the SNH objection and the RSPB Scotland objection insofar as there may, or may not, be any significant difference to their position. The extent to which the case that is presented in evidence by the objectors has changed during the course of the inquiry process, including during the extensive pre-inquiry consultation process, at the inquiry session and in closing submission are summarised.

5.162 Dr Douse confirmed in his cross-examination that the residual concerns that had caused SNH to maintain its objection in its advice to Scottish Ministers are those contained in the SNH topic paper¹⁸⁶, which are now disturbance and displacement. He also confirmed

¹⁸⁶ SNH Topic Paper. [SNH O-52]

that SNH no longer maintained its objection in relation to collision risk. RSPB Scotland states in its topic paper¹⁸⁷ (conclusions and summary assessment), that it objects on the ground that the species is susceptible to collision risk and, that the project will cause disturbance and displacement to the species. RSPB's grounds of objection reflect SNH's position in the early stages of the consultation process, prior to it deciding not to maintain its objection in relation to collision risk sometime between its last formal consultation response on 8 January 2015 and the lodging of its topic paper.

5.163 As with greenshank, RSPB Scotland and Dr McCluskie did not present any substantial evidence of their own in relation to red-throated diver and are reliant upon SNH suggesting that there is some merit in the objection that they maintain. The other shared feature of RSPB's case in respect of both greenshank and red-throated diver is that just as with greenshank, by the stage of closing submission RSPB's position in relation to one of its stated grounds of objection is ambiguous. RSPB Scotland presents no evidence of its own in relation to collision risk and the only reference to this issue in the evidence of Dr McCluskie was in response to the evidence before the inquiry concerning the work carried out in relation to the avoidance rate being increased from 98% to 99% or possibly 99.5% (spoken to in evidence by Dr Douse)¹⁸⁸. In closing submission there is no mention at all of collision risk. However, the applicant has the same concern that because RSPB Scotland has not made its position clear in closing submission, or indeed at the inquiry, if its position as stated in the topic paper is not addressed in this report, at a later stage RSPB Scotland may seek to resuscitate the argument through legal challenge on the ground of alleged failure to take into account a relevant and material consideration raised in its objection. Therefore, this point is addressed under the relevant topic heading below. The majority of the discussion that follows focuses on the evidence presented by SNH through Dr Douse and his topic paper.

5.164 However, there is an important issue to be addressed before going into the detail of SNH's case on red-throated diver. Issues of credibility have already been raised, which are of direct relevance to the weighing of the evidence. At the outset of Dr Douse's cross-examination, some time was spent examining the manner in which SNH's position of objection has evolved and changed through both the consultation process and, more recently, after the Scottish Ministers intimated that a public inquiry was to be held into the outstanding objections. Just as with greenshank, the changes in SNH's position in relation to red-throated diver during those preliminary procedural stages, and right up to giving evidence to the inquiry, bears directly upon the robustness of SNH's position in evidence. This is particularly relevant to the decision-making within SNH and relating its different residual concerns to the stage of consultation and the information in its possession. It is also of importance to the question of credibility because the question must be asked and considered, is it really credible that what comes to be the principal "concerns" that are relied upon at inquiry and in closing submission only emerge either at the very end of the consultation process or, even more alarmingly, in the topic paper prepared by Dr Douse.

5.165 While Dr Mudge was taken through the body of correspondence from which SNH's position could be ascertained, this was because he was being cross-examined on the separate though related issue as to how the decision was taken, with particular regard to whether the decision was taken in a manner that accorded with EC Guidance (produced as inquiry documents RSPB B1 & B2). The line of cross-examination with Dr Douse had a two-fold purpose. Firstly, to establish a timeline and relate the changes in SNH's position to

¹⁸⁷ RSPB Scotland Topic Paper. [RSPB D23]

¹⁸⁸ Furness 2015 – Report to SNH Diver and Skua avoidance rates – DRAFT. [SNH O-6]

the stage of consultation and information provided when different decisions were taken to maintain an objection in relation to different qualifying species. Secondly, because Dr Mudge had been unable to discuss the evidential basis upon which it was concluded certain conservation objectives were not met, it was necessary to go into greater detail with Dr Douse as to the basis of the SNH's objection being maintained by referring to the consultation responses themselves, together with letters and emails from the applicant and its consultants. In order to address the first issue, Dr Douse was taken to Table 3.1 of Technical Appendix 5.2 of the FEI (2014), pages 5 to 10. The correspondence to which this Table relates is produced at Appendix 4 of the same Technical Appendix to the ES addendum.

5.166 In summary the chronology of events that was established from that exercise in relation to red-throated diver was as follows:

20 November 2013 (SSE_11.136) - in response to consultation on ES addendum, SNH objected in relation to collision risk and disturbance and displacement of divers using [REDACTED]. Further information requested was a worked example for red-throated diver collision risk calculations to demonstrate the method of working and provision of "more robust" data on preferred flight lines of divers using [REDACTED].

6 February 2014 (SSE_11.137) - Confirmation from SNH that its requests for further information related to length of survey watches and the worked example for collision risk modelling had been met. Advice that SNH considers the vantage point effort at [REDACTED] not sufficient and requesting additional VP work to inform a robust assessment of flight activity and direction.

21 March 2014 (SSE_11.138) - SNH advises applicant that it wishes more dawn and dusk watches covering [REDACTED] and additional vantage point work for a robust assessment of flight activity and direction.

30 April 2014 (SSE_11.140) - following meeting between SNH and applicant and its advisers on 25 April 2014 to discuss SNH's insistence that further survey work is required, SNH sets out its position as at end of April regarding outstanding concerns. Only complaint regarding survey effort is in relation to [REDACTED] and requests additional survey as per requests on 6 and 21 March 2014. Concern in relation to collision risk is that because of insufficient survey work for [REDACTED], they don't have a complete picture of the flight activity.

23 May 2014 (SSE_11.141) - SNH advises that the reason for their concern regarding [REDACTED] is that they do not agree that the year of proven breeding in 2012 is anomalous. Concern expressed that flight lines from [REDACTED] are not what are expected, as the expected normal pattern of provisioning flights is from loch to coast. SNH insisted on further survey work.

21 August 2014 (SSE_11.142) - following objection by THC in June 2014 and Scottish Ministers' decision to hold a public inquiry, SNH advises by email that discussions over red-throated diver and greenshank have reached a stalemate.

8 January 2015 (SSE_11.143) - SNH provides a consultation response on Applicant's Further Information Report (FIR(2014)). The right-hand column in Table 3.1 of Technical Appendix 5.2 of CD_5.2, specifies which further information

requests from SNH are addressed in the FIR (2014). Objection maintained by SNH in respect of red-throated diver and greenshank. Basis of objection in relation to red-throated diver is:

- Permanent displacement of “up to two red-throated diver breeding sites” [REDACTED]. For that reason adverse impact on SPA population of 46 pairs. Significant disturbance at both from proximity to access track and operational turbines is alleged. SNH states that it is not aware of any potential mitigation such as screening to adequately mitigate the disturbance.
- Collision risk mortalities cannot be reliably estimated from the information presented and may be sufficiently high to affect population viability.

21 October 2014 (SSE_11.146) - meeting between SNH and applicant at which SNH not in a position to discuss red-throated diver (confirmed in cross-examination of Dr Douse), and applicant provided update on 2014 survey work.

5.167 The meeting of 21 October 2014 essentially marked the end of consultation with SNH and thereafter the inquiry process began. Following the pre-examination meeting, on 28 January 2015, parties lodged Inquiry Statements at the end of February 2015. The objection in relation to both was insisted upon and notice was given that it would be argued that this would lead to the loss of two breeding sites (not pairs) from the SPA. For the first time, SNH suggested that the potential disturbance would be more widespread, impacting upon lochs and lochans “in the vicinity” of the development. For the first time it was suggested that disturbance in relation to non-breeding birds using lochs and lochans in the vicinity had the potential to impact on the long-term viability. No specification was provided as to the distance out from the development it was to be argued such impacts would occur. For the first time, it was argued that the proposed development in combination with other developments would have a barrier effect in relation to red-throated diver flights, but no reasoning was provided as to the basis for this suggestion.

5.168 The topic paper was then lodged as part of the inquiry documents and for the first time there was disclosure that SNH has been actively considering its avoidance rate in relation to red-throated diver. In addition, for the first time, SNH provided notice that it now had additional concerns in relation to the following matters:

- That [REDACTED] may be another possible breeding site.
- Using its own survey records for the period 1991 to 2006 it seeks to question the applicant’s conclusions from its survey work in relation to breeding sites “in the vicinity”.
- There may be a barrier effect related to [REDACTED].
- Due to tree height, viewshed accuracy may have been adversely affected leading to an underestimate in flight activity at [REDACTED].
- There may be insufficient survey data in relation [REDACTED].
- General concern that there may be a variety of effects associated with impacts on non-breeding birds.
- The distance that SNH contends is of relevance to its general assertion of impact on lochs and lochans “in the vicinity” of the development is 750 metres in relation to other developments, but for some unspecified reason should be set at 2 kilometres for this development based on studies not even related to Scotland, never mind this part of Scotland where there is good evidence of interaction between red-throated diver and wind farms.

5.169 In general, it is apparent from this analysis that SNH has not been consistent in its approach in relation to this qualifying species. The remarkable changes in its approach to the assessment of potential impact on greenshank have been discussed. The same process in cross-examination was conducted with SNH's witnesses in relation to greenshank but this is discussed in a different manner in our submissions on greenshank, because of the attempt to totally move the goal posts by SNH producing new evidence of its own in relation to CRM.

5.170 While the change in position is not so instantly recognisable in relation to red-throated diver, there being no alternative externally instructed collision risk model "pulled out of the hat" (predicated as it is on another change in position regarding the prospect of colonisation of the development site), nonetheless when analysed under reference to the different procedural stages at which SNH had to present its formal position, it is apparent that SNH's position in relation to red-throated diver is also remarkably different at inquiry when compared to its position during the consultation process. It is also apparent from the terms of the letters from SNH during the consultation process that SNH fully understands that its role at that stage of the process was to inform the applicant of any issues that it did not feel were adequately addressed.

5.171 The significance of this is that the consultation process is intended to inform the applicant of the statutory consultees' concerns following upon review of the environmental information. Dr Mudge agreed in cross-examination that the applicant was entitled to expect that the consultation responses would set out what issues were of relevance to whether there was or was not sufficient certainty, as regards adverse effect on the integrity of the SPA, and, that this would be based on a proper evaluation of the environmental information that had been submitted. There is no reasonable or credible explanation offered up by Dr Douse at all as to why these issues, which should have been identified during the consultation process are only now being raised. It is apparent when one reads the correspondence from SNH referred that all of the "new" concerns have been thrown into the mix at this late stage to shore up the crumbling façade of what SNH would like to portray as an objection that is, on the face of it, valid.

5.172 Further, it was submitted that this was borne out by Dr Douse's confirmation in cross-examination that he had only come up with these issues when preparing the topic paper for the inquiry. It is also borne out by the fact that SNH has no new information of its own, based upon its own study of the use made of the lochs and lochans "in the vicinity" of the development, that justified such a sea-change as to the breadth of impacts affecting such a significant increase in the number of breeding locations of relevance to the Natura assessment. No new work was instructed by SNH to support its position at inquiry in relation to red-throated diver. Instead, the new piece of information that is said to justify SNH's changed position on the more widespread impacts within the SPA is the production of its own survey work for 1999-2006. Notwithstanding SNH's insistence that RPS cannot rely upon its initial survey work of 2003 to 2007, and as Mr Scott advised during his evidence, that survey work was carried out for a different purpose and could not be used for comparison to the RPS survey work.

5.173 What should be taken from this unhappy history is that SNH's final position at inquiry lacks credibility, because it is simply untenable that given the very lengthy period that the proposal to develop a wind farm at Strathy South has been considered by SNH (2003 to 2015), with ever increasing amounts of environmental information being submitted in

response to particular identified concerns by SNH, that suddenly there is a whole new raft of issues raised by SNH. The lack of credibility is emphasised by the fact that there is no new information in the intervening period to justify such a change in position; other than the additional information requested by SNH to address its residual concerns that were entirely consistently stated in relation to [REDACTED] and collision risk. The 1999-2006 survey information is not new information as it has been in SNH's possession throughout the consultation period. It is also not up-to-date survey information that reliance should be placed upon given SNH's attitude as to the level of survey information required (reference is made to the discussion in SSE_11.133 in that regard as to survey effort that far exceeds SNH requirements for development as opposed to SPA or national survey monitoring¹⁸⁹).

5.174 The other very important point to be made in relation to the innovations to SNH's basis for maintaining its objection is that the onus of proof is not as assumed by SNH, in relation to these issues that are just thrown into the mix at the last minute. The question to be resolved by me, is whether or not there is reasonable scientific doubt. Where SNH, as statutory consultee, raises issues for the purpose of justifying not just its objection but also to demonstrate to the Scottish Ministers that its advice is sound and should be relied upon, then the onus of proof is on SNH to demonstrate that the issues that it has not previously asked the applicant to address are demonstrably scientific uncertainties that do not fall into the category of "permissible doubt" as opposed to giving rise to "reasonable scientific doubt", on the basis of sound scientific evaluation. The approach to be taken to these new issues at this stage of the decision-making process is not as low as the approach to be taken to screening at the first stage of the appropriate assessment, as is suggested in SNH's closing submission.

5.175 In the legal submissions above, the need for the detailed discussion as to the nature of the assessment needed for the purpose of identifying likely significance effects having regard to the fact the applicant has not disputed that an appropriate assessment is required for the two species that form the basis of SNH's objection was questioned. However, when one takes cognisance of the fact that SNH has introduced entirely new concerns in relation to red-throated diver in its evidence to the inquiry, which have never been raised with the applicant and its experts during a lengthy consultation process, insight is gained as to the reason for focussing on likely significant effects. It would appear that the reason for the lengthy submissions as to the limited amount of assessment involved in coming to a conclusion as to what constitutes a likely significant effect, is to seek to create the impression that such an approach applies to the evaluation of the relevance and significance of SNH's new issues. It can only be deduced as to why it is SNH spent so much time in closing submission emphasising how low the test is when screening an application to decide if an appropriate assessment was required; in relation to two species in respect of which the applicant has never disputed the need for appropriate assessment for these two species, and separately hen harrier. If that is where one is led by SNH's submissions then that reasoning would instantly open up a decision based on that reasoning to legal challenge.

5.176 At this stage of the process, the inquiry is not taking place for the purpose of screening the proposal for the purpose of deciding whether or not an appropriate assessment is required in respect of the two species that are the subject of SNH's objection. That issue has been dealt with and the applicant has accepted that it has to provide information to facilitate the carrying out of the appropriate assessment by the

¹⁸⁹ RPS (2015i) An Assessment of Survey Effort at Strathy South Wind Farm. [SSE_11.133]

Scottish Ministers in relation to those species. In relation to the new matters that SNH bring forward as part of the inquiry process, it is for SNH to demonstrate that the new “concerns” would result in the conservation objectives being undermined. If that was not correct then SNH could always set a “legal trap”, by holding on to a number of concerns and stating them only once an inquiry process had begun when the applicant had a much more limited opportunity to provide the information needed to do an appropriate assessment in respect of those new concerns.

5.177 The consultation process and inquiry process are not intended to operate in this way where such a legal trap can be set by the statutory adviser. If that was not the case then the decision-making process in relation to Natura issues would be open to abuse by the statutory adviser in order to frustrate and thwart developments that it was opposed to. While Dr Douse rejected the suggestion put to him in cross-examination that in essence SNH’s position of objection was in effect an objection in principle, it was submitted that the way in which SNH has behaved in seeking to open a raft of new issues in relation to red-throated diver at such a late stage in the decision-making process would suggest otherwise. Another indicator that SNH’s position is one of opposition on a point of principle, as opposed to reaching such a position on the basis of scientific evaluation, is the lack of scientific substance to its “residual concerns”.

5.178 In relation to these new matters, at this stage of the process, it is for SNH to justify its position to the Scottish Ministers that as a consequence of these new concerns, it can be concluded that there is a significant risk that a conservation objective(s) would be undermined. The onus of proof is on SNH in relation to demonstrating that all of these “concerns” must be treated as constituting a significant risk that one or more conservation objective would be undermined, even after taking into account all of the robust scientific evidence produced by the applicant and its expert ornithologists. In response to the Inquiry Statement, RPS has produced detailed reports that examine SNH’s new concerns in relation to survey work and wider disturbance and displacement effects than has ever previously been mooted by SNH in respect of Strathy South and red-throated diver. The onus was on SNH and RSPB Scotland to come to the inquiry with their own reliable and credible scientific evaluation of the evidence, with such supporting evidence necessary to support its scientific evaluation. Only with reliable and credible scientific evaluation of the issues, would either objector be in a position to displace the reliance that Scottish Ministers are entitled to place on the scientific opinion of the applicant’s experts.

5.179 Just as the applicant has had to submit a comprehensive scientific assessment in support of its application, if SNH wishes to challenge the validity of that assessment then it is for SNH to put forward the scientific and technical evidence upon which it might be entitled to question the applicant’s robust assessment. It is for the objector, to make out its own case and not seek to rely upon unsubstantiated assertions that suddenly new issues have to be addressed by the applicant. It would be wrong in law to seek to apply the judicial dicta related to the screening process (to answer the question of whether a project should be subject to appropriate assessment), as though equally applicable to the separate question of the onus of proof on an objector to make out its case at inquiry; whether or not that objector is also the statutory advisor to the decision-maker. It is against that background that SNH’s objection is addressed, and the innovations to that objection.

Red-throated diver - survey work and methodologies

5.180 Key points:

- The survey methodology and effort for flight activity and breeding birds is sufficient to provide a robust representative sample for red-throated diver activity at and around Strathy South, across many of the survey years between 2003 and 2014. This has been further augmented by data collection at the nearby Strathy North and Strathy Wood sites.
- As a result, an excellent understanding of the use of the Strathy South site and surrounding area by red-throated divers has been achieved.

5.181 In the discussion of the survey work and methodological issues when addressing the objection in respect of greenshank, a wide range of the broader criticisms raised by SNH in relation to the adequacy and reliability of the site survey work for the purposes of ascertaining whether or not the conservation objectives would be undermined as a result of authorising the proposed wind farm at Strathy South have been covered. The reason that the discussion of this topic is so lengthy in the section on greenshank is because the generic issues are of equal relevance to SNH's position on red-throated diver. Consequently, having thoroughly examined SNH's concerns in relation to survey work, it is unnecessary to address those same issues again in this section containing our submissions in relation to red-throated diver. However, the detailed position on the objectors' issues related to the adequacy and reliability that are of equal relevance to red-throated diver, as they are to greenshank should be taken into account.

5.182 The specific issues of concern that have featured in the evidence on red-throated diver are:

- The unwillingness on the part of Dr Douse and SNH to accept that the survey work carried out by RPS in respect of [REDACTED] is more than adequate for the purpose of establishing flight activity, the pattern of use of the loch for breeding, and, flight direction to and from the loch.
- The new concerns in relation to survey work that SNH has specified in its Topic Paper that are more general in nature, summarised in bullet points 2, 4, 5 and 6 in paragraph 5.166 above. These issues are not specifically related to the use of lochs by breeding pairs. The other criticisms on survey work of relevance to the use of [REDACTED], are addressed under the topic of disturbance and displacement unless they are of relevance to the discussion of the more general concerns.

5.183 Similarly, the survey issues of specific relevance to [REDACTED] are addressed when considering SNH's justification for arguing that notwithstanding the very significant amount of survey effort, it continues to insist that it is unable to ascertain that the development will not lead to a loss of a breeding pair from the SPA population. Therefore, this section discusses only the additional general concerns identified in paragraph 5.166 insofar as these species-specific concerns raise methodological issues or question the adequacy of coverage for red-throated diver. It is therefore helpful to have in mind the SNH Guidance that is specific to survey work for red-throated diver.

5.184 The survey work for red-throated diver was designed in accordance with SNH guidance. Dr Douse was taken to different versions of relevance to the survey work carried out in different years. He was also taken to the most up-to-date version of the guidance

published in 2014 (SSE_11.76¹⁹⁰) and he agreed that SNH's current requirements for survey work are as stated in that document. As previously submitted the 2014 survey work was carried out in accordance with an earlier 2013 version (SSE_11.75¹⁹¹) that is in identical terms in relation to red-throated diver. Given the contention that the 2014 survey data was set aside because Dr Douse believed there were "deficiencies", now that those alleged deficiencies have been explained in the topic paper, not previously having been explained in the consultation response on the FIR (2014), it is appropriate to measure SNH's criticisms of the 2010, 2012, and 2014 survey work against its current standards and recommendations that are accepted by all parties are more onerous than the requirements from earlier guidance.

5.185 The following points are to be taken into account from SSE_11.76 and Dr Douse's evidence under reference to this guidance:

- In accordance, with paragraph 3.7.3 that deals specifically with breeding divers, advice is given as to how to take account of the commute from nest sites to feed on the sea. The survey area to take account of commuting flights should be identified having regard to the guidance in Table 1.6 for non VP surveys. It is recognised by SNH that breeding divers can change nest locations between years and non-breeding birds may be occupying a suitable breeding loch or lochan. No loch or lochan should be discounted on size alone.
- Table 1.6 advises that in relation to red-throated diver, the distance outwith the proposal site within which data should be collected is stated to be a 1 kilometre radius. The survey should be of occupied water bodies including use of lochans 5 metres long. There should be an assessment of whether non-breeding birds are present¹⁹². Two years' survey work is required.
- Similarly advice is given for VP surveys. The relevant VP summary table (Table 1.1) recommends a minimum number of hours per VP per season as being 36 hours for both breeding and non-breeding seasons. This is between sunrise and sunset but in relation to red-throated diver it is not argued by SNH that there was not sufficient survey coverage at either end of the day. Focal breeding loch watches should be conducted from VPs overlooking each occupied nesting lochan within 1 kilometre of the proposed development site. That distance requirement may be extended for such survey work if the proposed development sites lie on potential flight routes.

5.186 SNH's attempt to undermine the survey work for lochs and lochans in the wider area around the wind farm is inextricably linked with the new argument that displacement of not just breeding birds (but also non-breeding birds), could occur within a buffer of 2 kilometres from the operational site. In rebuttal of the general point that the survey work was not adequate and fit for purpose in relation to the wider 2 kilometre area from the site boundary, reference is made to the following material considerations:

- It is accepted that the surveys have been carried out in accordance with SNH guidance on survey methodology.
- Dr Mudge has confirmed that SNH takes no issue with the qualifications and experience of the applicant's ornithological experts, and that was not contradicted

¹⁹⁰ SNH (2014) Recommended bird survey methods to inform impact assessment of onshore wind farms. [SSE_11.76]

¹⁹¹ SNH (2013) Recommended bird survey methods to inform impact assessment of onshore wind farms. [SSE_11.75]

¹⁹² See Figures A11.1.131–A11.1.141 of CD_4.5, Technical Appendix A11.1. [SSE_11.143 & CD_4.5]

by Dr Douse in his evidence to the inquiry. Nor has the reliability of any of the applicant's ornithological experts who gave evidence to the Inquiry been criticised on that ground.

- The applicant has completed all of the focal breeding loch watches that SNH has requested and presented the survey results. The only controversial issue raised by SNH prior to January 2015, was the need for further focal survey work at [REDACTED] that far exceeded SNH's survey requirements from its guidance. Ultimately this was done and SNH has failed to provide any valid or rational explanation of why it has not been accepted in relation to [REDACTED].
- Figure A11.1.42 of the ES addendum (CD4.5, Ornithology Confidential Technical Appendix 11.1) shows the survey boundaries for 2010 and 2012 surveys. From this it can be seen that the survey area extended 2 kilometres from site, which exceeds SNH guidance in relation to survey area outwith development site. It can be seen that [REDACTED] were identified as confirmed or possible breeding locations in 2010. Suggested inadequacies in the survey information related to these lochs has never previously been brought up despite the fact SNH has known that there was evidence of breeding activities at these Lochs since 2013 when the addendum was published with the 2010 survey results.
- Under reference to the submissions above as to indisputable conclusions that can be drawn from RPS inquiry report SSE_11.133, the graphic illustration in Figures 15 and 16 as to the disproportionately onerous survey effort at Strathy South compared to a number of other wind farm proposals. Those submissions in relation to SSE_11.143 are not repeated but it is highlighted that section 4 of the report provides a response to SNH's suggestion that the area around the proposed development site has a particular sensitivity for red-throated diver that justifies its excessive demands for yet more and more survey information in relation to this species.

5.187 Mr Scott's inquiry report (SSE_11.133) was given considerable attention by both SNH and RSPB Scotland in cross-examination, particularly as regards the issue of sensitivity of the SPA around the development site. While much of the cross-examination of Mr Scott from both objectors' centred round whether the proposed developments on Lewis could be differentiated either in relation to site-specific conditions or usage of the site, or the design of the wind farms, it was submitted that this misses the point of Mr Scott's evidence. He presented this comparison to address the issue of relative sensitivity and difference in approach. In doing so he drew upon his first-hand experience and knowledge that he gained of the Lewis Wind Farms sites while employed by RSPB Scotland. On that basis he has expressed his own professional opinion that in terms of sensitivity and potential impacts, it is his view that there is no material difference in the sensitivity of the locations of the sites for red-throated diver.

5.188 For that reason he questions the absence of coherent reasons as to why such a radically different approach should be taken to the application of SNH guidance in this case. In particular, there is no transparent reason for SNH demanding survey work so vastly in excess of its standard survey requirements that have been deemed sufficient in locations where similar issues were of concern, specific to red-throated diver. No other witness at the inquiry had as much knowledge as Mr Scott of the position in Lewis and there is, it was submitted, no proper basis upon which to impugn his credibility despite RSPB Scotland's attempts to do so in closing submission. It does not seem to be appreciated that he was not arguing that there were no differences in relation to the site-specifics of the proposed

locations, numbers and distribution of red-throated diver, and potential risks such that the situation on Lewis was completely analogous.

5.189 His position in evidence was that there were sufficient similarities between these developments as to justify using them for the purposes of establishing a benchmark as to what was acceptable to SNH in practice. Just as the SNH guidance was used to demonstrate what SNH's benchmark is for survey effort as a minimum, when compared to what had been provided for Strathy South the result was disproportionate. Looked at against both benchmarks, the survey effort at Strathy South is so disproportionately high that it gives cause to call into question whether or not SNH has any rational basis for contending that on the evidence it cannot ascertain if there will be an adverse effect on integrity in relation to red-throated diver. Mr Scott dismissed the claimed sensitivity of the site as being the justification because the other developments he looked at were not remarkably different. In addition, he referred to the fact the qualifying species was in favourable conservation status in this SPA, which had not been the position on Lewis. It was submitted that the relevance of the benchmark from the guidance should not be overlooked as it is a statement of what SNH considers to be sufficient for the purposes of carrying out the assessment work. Footnote 7 on page 3 of SSE_11.133 shows that the benchmark from guidance is based on the 2014 guidance to which the applicant makes reference.

5.190 In any event the line of cross-examination as to significant differences in the location, baseline and design of the wind farm was not open to SNH in relation to the amount of information that was acceptable to SNH for the purpose of carrying out its function as statutory advisor for the Strathy North proposal. When Dr Douse was cross-examined as to the justification for a different approach he avoided the issue on the basis it wasn't his case. Consequently, there is no rational explanation from SNH as to the justification for the difference in approach.

5.191 Against that background, there is a clear absurdity in SNH's position in seeking to have Scottish Ministers accept that the reliability of RPS's survey information on breeding patterns at different water bodies is in doubt, based upon its own dated survey records for the period 1999 to 2006, which was carried out for a different period. To reach that conclusion Ministers would have to be persuaded that it was more reliable than the RPS survey information. The illogical and unreasonable stance of Dr Douse in refusing to accept the adequacy of the survey data is particularly apparent in relation to [REDACTED], as discussed further in relation to the contention by SNH that it is a regular breeding location.

5.192 A separate concern is raised by Dr Douse in his evidence, regarding the claimed interference with visibility in viewsheds from trees in relation to [REDACTED]. A number of general issues concerning this topic are set out earlier. The complaint that is specific to two lochs, [REDACTED], is no more than a hypothesis in that it is suggested that trees may have had such an effect and this may have led to underestimation of flights. This argument is untenable when one has regard to the level of survey work carried out at [REDACTED] supplemented by focal survey work in 2014 and the addition of a camera to record activity around the clock. In relation to [REDACTED] the concern has no basis in fact and even although it was identified as a breeding location in 2010, it hasn't been since. This concern needs to be considered in the context of the location of [REDACTED] within the site, and it is inconceivable that SNH would not have made a request for further survey work if it had a genuine concern that it could not assess the impact on breeding birds in that location. This objection should be given no weight.

5.193 Having regard to the submissions that have already been made above, as regards the lack of credibility attached to SNH's objection based on survey work and the reliability of the relevant data, it was submitted that SNH's recent change in position as regards these new concerns serves to further undermine its credibility in relation to the claimed inadequacies of the survey work. Given the absence of reliable evidence from SNH to demonstrate that these issues have resulted in the wrong conclusions being reached in the assessment work, and that if they had been taken into account would have resulted in different conclusions being reached as to whether or not the relevant conservation objections were met, Scottish Ministers are entitled to place no weight on these aspects of SNH's case to the inquiry.

Red-throated diver - collision risk

5.194 Key points in relation to red-throated diver collision risk are:

- Based on the low use of the wind farm area, coupled with observations from other sites where turbine arrays are avoided, collision risk to red-throated divers at Strathy South is very small. The low site usage also means there is a very low risk of potential barrier effects linked to flight patterns. In line with this, SNH are currently considering increasing the avoidance rate for this species from 98% to 99%, or even 99.5%.
- In the ES addendum 2013 it was concluded that there was no collision risk because of the high avoidance rate shown by red-throated diver. This was reinforced in the FIR (2014). This was based on collision risk modelling and expert opinion based on scientific study.

5.195 Reference has already been made as to the ambiguity of RSPB's position in relation to collision risk for red-throated diver. In addressing the different positions of the two objectors, reference is made to the RPS inquiry report, "Red-throated diver Interactions with Operational Wind Farms" (SSE_11.58)¹⁹³. It is noted from the executive summary of this report that the purpose of the report is to examine available evidence to establish the behavioural characteristics of red-throated divers in proximity to operational wind farms. Consideration is given to whether or not disturbance, displacement or collision impacts have resulted from the wind farms, having particular regard to evidence of changes in breeding or flight activity. For the purposes of this study, use was made of data from operational wind farms that have been constructed in proximity to red-throated diver and in respect of which data on breeding and flight activity is available. RPS based its study on a combination of field work that its surveyors have been carrying out as part of post-construction monitoring desk study for the Carraigh Gheal Wind Farm in Argyll and Bute, review of data available for Bugar Hill in Orkney and desk study of the scientific literature available for Smola in Norway. Neither objector has produced any similar scientific study that examines changes in breeding and flight behaviour of red-throated diver in response to the construction and operation of a wind farm near to existing habitat that supports this species in the breeding season.

5.196 The RPS report concludes that collision risk is negligible at Strathy South because of the strong evidence of avoidance behaviour by red-throated diver from the turbine arrays in addition to low levels of flight across the development site. As regards disturbance and

¹⁹³ Red-throated diver interactions with operational wind farms. [SSE_11.58]

displacement, those conclusions are discussed in the following section but it is to be noted that the conclusion reached by RPS from its study differs significantly from that drawn by SNH as to the assumption that it makes that this species would be displaced out to 2 kilometres from the proposed wind farm at Strathy South.

5.197 It appears that in the lead up to the inquiry, SNH was conducting its own work internally and reviewing the appropriateness of the default avoidance rate of 98% for red-throated diver. Dr Douse was cross-examined under reference to the SNH Guidance on the use of avoidance rates (SSE_11.72¹⁹⁴). The issue explored with him was the difference between the use of default values and the use of an avoidance rate, derived empirically using wind farm monitoring of actual collisions that is based on species-specific data in relation to UK wind farms. He confirmed that as could be seen from the table in Annex 1 of the guidance, that there were a number of species in respect of which the avoidance rate had been increased from 98% to 99%, because of the study that had been carried out in relation to these species to understand the interaction of these particular species with wind turbines. In our submission that is the nature of the RPS inquiry report, SSE_11.58 but, as noted in paragraph 29 of the guidance and as discussed above, because it has not been peer-reviewed it would be described as grey literature. However, SNH has instructed its own study that it produced to the Inquiry and to which brief mention is made in the SNH topic paper. This work was carried out by MacArthur Green and is inquiry document SNH O-6¹⁹⁵, dated 16th February 2015.

5.198 Dr Douse explained that on the basis of that work SNH was intending to increase the avoidance rate from 98% to 99%, and perhaps even up to 99.5% for red-throated diver, because it was accepted by SNH that there was strong evidence that red-throated diver avoided operational wind farms. Mr Scott explained in response to my questions that an increase to 99% would halve the estimated collision mortalities that have been calculated on the default value of 98%, and if it increases to 99.5% there would be a further reduction of half again. This must be borne in mind when considering the collision risk calculations contained in the ES addendum and FIR (2014).

5.199 It was apparent that it came as a surprise to RSPB Scoland that SNH were intending to increase the avoidance rate for red-throated diver and as noted above, this was the only issue dealt with in the evidence-in-chief of Dr McCluskie. In response to questions he emphasised that RSPB Scotland had not been consulted on this proposed change and that until SNH had completed its internal review of SNH O-6 and published its proposal to change the avoidance rate, RSPB's position was that Scottish Ministers have to base their consideration of collision risk to red-throated diver on the default avoidance rate value. This advice from RSPB's witness is simply wrong. Both Mr Scott and Dr Douse agreed that assessing collision risk was not confined to the output of the CRM work and that it was also necessary to take into account scientific observation, knowledge of the environmental conditions of the site, and, knowledge of the behavioural characteristics. This is borne out from the evidence of collision risk of Dr Grant and Dr Zisman, in relation to the collision risk to greenshank and hen harrier, respectively. They both discussed particular characteristics of the species and the environmental conditions at Strathy South, when considering whether the estimated mortality calculations were realistic and were related to their expectation as to how the particular species would behave should the proposed Strathy South wind farm be constructed.

¹⁹⁴ SNH (2010) Use of Avoidance Rates in the SNH Wind Farm Collision Risk Model. [SSE_11.72]

¹⁹⁵ Furness – 2015 – Report to SNH Diver and Skua avoidance rates – Draft. [SNH O-6]

5.200 It may be because of the strong evidence before the inquiry that establishes red-throated diver show very high avoidance behaviour toward wind turbines that RSPB Scotland does not appear to insist upon its objection in relation to collision risk in closing submission. However, for the sake of good order the reason for RSPB Scotland stating an objection on the ground of collision risk is covered. At paragraph 57 of the RSPB topic paper, reference is made to the ES addendum and the estimated collision mortalities presented in the 2013 assessment based on survey years 2010 and 2012. Reference is not made to the FIR (2014), and the reduction in the collision risk estimation that resulted from the 2014 survey work. Furthermore, even insofar as there is reference to the applicant's earlier prediction of collision mortalities, RSPB Scotland expresses no opinion as to its reliability but accepts that prediction and contends that an adverse impact on integrity would result. This is based on RSPB's assertion that there is considerable uncertainty as to how red-throated divers interact with wind farms. No weight should be given to RSPB's evidence on this topic. It is based on incomplete information; it is superficial; and, entirely at odds with the evidence before the Inquiry as to the level of understanding and knowledge regarding interaction of red-throated diver with operational wind farms.

5.201 Before leaving this topic, attention is drawn to the doubtful reliability and credibility of SNH's assertions as to the existence of scientific doubt. While ultimately SNH came to align itself with the scientific knowledge and understanding of how red-throated diver interact with wind farms, it is of considerable importance that its position was significantly out of kilter with the scientific evidence available to it when formulating its formal advice to Scottish Ministers at the beginning of this year. As demonstrated through reference to the chain of correspondence, SNH has consistently maintained a position that it is unable to ascertain that collision risk associated with the proposed wind farm may affect the population viability of the SPA. Significantly, at the beginning of January of this year, in its final consultation response on red-throated diver in response to the FIR (2014), it states that collision mortality cannot be reliably estimated from the information presented and may be sufficiently high as to affect the SPA population. Leaving aside the question of Dr Douse's knowledge at that time of the review being carried out by SNH of the applicant's further environmental information, the fact the study was completed by 15 February 2015 demonstrates that the scientific body of evidence that leads to the conclusion of complete avoidance by red-throated diver was available to SNH and Dr Douse, when it took the decision at Director-level to maintain its objection on the ground of collision risk. This is yet another example of SNH and Dr Douse being selective as to the scientific knowledge that it has made use of when advising Scottish Ministers in relation to the proposed Strathy South wind farm.

5.202 In summary, Scottish Ministers are invite to conclude that the objection on the ground of collision risk has no basis in scientific fact. Furthermore, both objectors could have ascertained this from the type of scientific study carried out by RPS in SSE_11.58, for the purposes of demonstrating to the inquiry the basis for their opinion (that has been long held throughout the consultation process and explained to SNH), that there is no reasonable scientific doubt as to collision risk to red-throated diver from the proposed Strathy South wind farm. The existing published scientific literature could have been considered prior to stating their objections on collision risk. From the evidence, it was submitted that Ministers are entitled to conclude that there is no reasonable scientific doubt that collision mortality would not, or even may, affect population viability of the SPA red-throated diver qualifying interest.

5.203 It is convenient to consider at the end of this section, an effect that is often considered to be the corollary of very high avoidance behaviour namely disturbance and displacement from breeding locations as a consequence of what is known as a barrier effect. While acknowledged that the discussion is perhaps more relevant to the next topic, it is discussed in this section because of the approach taken by SNH in evidence, which was to seek to link its change in position on collision risk to a newly stated concern that a barrier effect would impact upon red-throated diver in the vicinity of the proposed wind farm site. No evidence was produced by SNH to justify it being put forward as an impact that might give rise to an adverse affect on the integrity of the site, in respect of this qualifying species. This is exactly the type of issue that SNH hopes to persuade Scottish Ministers that by adopting the same approach toward screening for likely significant effects, in order to decide to an appropriate assessment, that is sufficient to raise reasonable scientific doubt.

5.204 It has already been explained why that legal reasoning is seriously flawed and amounts to the setting of a “legal trap”. In evaluating the relevance and materiality of SNH’s “concern” in relation to barrier effects, which has no more basis to it than the type of evaluation SNH might have carried out at the time of advising on the screening opinion at the start of the EIA process, it is crucial to have regard to the stage of the assessment process that this project has reached. There is before the inquiry substantial environmental information to inform an appropriate assessment. Mr Scott relied upon the existing analysis of flight direction in and around the site, from survey work in 2010 and 2012 that is illustrated on a whole range of figures in the ES addendum 2013 and in FIR (2014) for the 2014 survey data (Figure 7), from which he was able to confidently conclude that in relation to all of the lochs or lochans in respect of which there was confirmed or possible breeding¹⁹⁶, there were flight routes to the coast that were not interrupted by the turbine array. This evidence should be accepted, as should Mr Scott’s very firm opinion under cross-examination that the proposed wind farm would not create a barrier effect that would result in disturbance and displacement. As SNH has nothing to rely upon other than assertion by Dr Douse there is no basis for not accepting Mr Scott’s opinion. He had the evidence available to reach a conclusion as to the likely flight corridors from likely breeding locations in the vicinity of the proposed wind farm.

Red-throated diver - habitat loss and disturbance

5.205 Key points on this sub-topic are:

- [REDACTED], situated outwith the SPA, has been the site of a single breeding attempt, and no successful breeding, since surveys commenced in 2003. The site has contributed nothing to red-throated diver population viability. Therefore no impact on population viability will result if its use is discontinued. It is not a regular breeding site, or on the SPA, therefore a pair of birds would not be lost to the SPA.
- The first time that SNH suggested that [REDACTED] should be treated as an established breeding site from which a breeding pair would be lost as result of disturbance and displacement, was in January 2015 right at the end of a very lengthy and extensive consultation process.
- Because of the large distance to the nearest track or turbine, the natural relief, and construction management measures, breeding red-throated divers using [REDACTED]

¹⁹⁶ Shown on Figure A11.1.42 of Technical Appendix A11.1 of the ES addendum. [CD.4.2]

would not be disturbed or displaced by the construction, operation or decommissioning of the wind farm.

- There are known examples of red-throated divers breeding in close proximity to wind turbines in Scotland (██████████ relating to Strathy North and, Carraig Gheal, of which data from the latter appears to have been misinterpreted by SNH). There is no reason to believe that a wind farm at Strathy South would prevent breeding from occurring.
- Regarding disturbance, a clear distinction needs to be maintained between construction and operational phases of the project. Detailed measures have been set out in the ES addendum and restated in Table 9.3 of Technical Appendix 5.2 of CD_5.2; to avoid disturbance during construction, although as established on the site visit, there is no direct line of sight from ██████████ to the access track. Operational measures are also identified to ensure there is no disturbance, and this also draws from the practical experience gained from such sites as Carraig Gheal and Strathy North.
- Other lochans used for red-throated diver breeding in the area are considered to be located beyond the displacement and disturbance distance for this species, therefore the wind farm will not impact on these birds in terms of habitat loss or disturbance.

5.206 Contrary to the position of SNH, the applicant's ornithological experts have taken a much more rational and scientific approach to their assessment of the likely disturbance and displacement effect. While Mr Scott would not dispute that, in general, the opposite side of "the avoidance coin" is disturbance and displacement, he does strongly dispute that the displacement effects would be as widespread as SNH now seeks to argue or that there would be any barrier effect, as discussed above. He also rejects out of hand the assertion by Dr Douse that as a consequence of disturbance and displacement, one or two breeding pairs of divers would be lost to the SPA population.

5.207 RPS have actively researched how red-throated divers behave in relation to operating wind farms in Scotland: report SSE_11.58 that was prepared by RPS specifically for this inquiry¹⁹⁷. It can be seen from the content of that report that RPS test for themselves whether or not any doubt remains in relation to the conclusions that they have drawn throughout the assessment process, and are most recently stated in summary format in Table 9.3 of Technical Appendix 5.2 of CD_5.2 at pages 40 to 46¹⁹⁸. The findings in relation to the conservation objectives of relevance to displacement and disturbance, the second and fifth in the SPA citation, are summarised together with an assessment of impact before mitigation, and after mitigation. Mr Scott discussed this summary in his evidence. It will be noted that the degree of certainty in the conclusions reached by RPS, that there would be no significant impact that would undermine any of the conservation objectives, is stated to be high. This is reflected in the unequivocal statements made in relation to the key points stated above.

5.208 It is the context of this high degree of certainty that RPS nonetheless studied data available to them from published sources, first-hand experience from site work that they have been involved in at Carraig Gheal, and review of pre-construction and post-construction site monitoring data. On the basis of this study Mr Scott explained that he remained highly confident as to the degree of disturbance and displacement of red-throated

¹⁹⁷ RPS (2015f) Red-throated Diver Interactions with Operational Wind Farms. [SSE_11.58]

¹⁹⁸ FIR technical appendices (2014). [CD 5.2]

diver that could be expected if Strathy South is constructed. Neither of the objectors' experts is in any position to offer an opinion that is in any way based on the enormous experience that Mr Scott and other RPS staff have from surveying red-throated diver post-construction of wind farms. Their involvement at Strathy North puts RPS personnel in a unique position as regards understanding red-throated diver behaviour in relation to wind farm construction, within the same SPA and in close proximity to the Strathy South site. Equally the use that they have been able to make of monitoring data from Carraig Gheal as a result of their involvement as Ecological Clerk of Works and in the monitoring work at that operational wind farm, adds to the robust nature of the evidence that has been presented by Mr Scott.

5.209 In the inquiry report, RPS examines two null hypotheses that are based on SNH's maintained objection as stated in its final consultation response of 8 January 2015. These are stated in paragraph 1.9, the second of which has been discussed in relation to collision risk. The first hypothesis that RPS seeks to verify is the proposition that the displacement of red-throated diver as a result of constructing the proposed wind farm is likely to result in breeding pairs being lost to the breeding population of the SPA from [REDACTED]. The assessment of the null hypothesis results in rejection of the hypothesis based on SNH's objection that there will be permanent displacement, and the loss of, two breeding pairs from [REDACTED].

5.210 The conclusions reached by RPS in SSE_11.58 as to the risk of displacement of breeding pairs from these two lochs should be accepted. There are two principal reasons that these conclusions should be adopted.

5.211 Firstly, the quality of the evidence relied upon by the applicant to support its assessment that there will be no significant impacts on red-throated diver known to be present within the vicinity of the development site, is unsurpassed by anything presented by either SNH or RSPB Scotland and has withstood scrutiny. The unique position that Mr Scott and RPS are in enables them to bring such well-informed opinions to the inquiry. In addition, the careful analysis of these issues is evidenced from the ES addendum, the FIR (2014), and the RPS inquiry reports (SSE_11.58, SSE_11.55¹⁹⁹ and SSE_11.133). Further evidence of the careful consideration that the applicant and its experts have given to the residual concerns that SNH had in relation to this issue, can be noted from the body of correspondence produced in Appendix 4 of the Technical Appendix 5.2²⁰⁰. Reference has already been made to the chain of correspondence from SNH, but of equal importance to the weight to give to the very different evidence from the applicant when compared to that proffered by Dr Douse and SNH, are the responses sent by Dr Zisman of RPS and Mr Baxter of SSE to SNH. These are only to be found in Appendix 4. They demonstrate the carefully reasoned basis for concluding that there a robust assessment of the disturbance and displacement and that there is no basis for SNH maintaining an objection in relation to these impacts.

5.212 While SNH sought to contradict Mr Scott's evidence as to the conclusions to be drawn from the data sources discussed in SSE_11.58, all that was established from the cross-examination of Mr Scott was that he had a complete understanding of the source material, and that SNH did not. One such example was the line of cross-examination pursued by SNH that the Smøla study clearly showed that red-throated diver could be

¹⁹⁹ RPS (2015c) Cumulative Impacts of Wind Farms in Relation to Red-throated Diver, Greenshank, Wood Sandpiper and Hen Harrier at Strathy South. [SSE_11.55]

²⁰⁰ FIR technical appendices (2014). [CD 5.2]

displaced out to 2 kilometres from an operational wind farm. In response he advised that while that was the distance of displacement shown from that study, there was a perfectly understandable basis as to the cause of that effect in Smøla, which was attributable to there being no suitable habitat (i.e lochans) within 2 kilometres of the wind farm. In relation to the cross-examination in respect of all three wind farms studied by RPS, it was apparent that SNH had not tested alternative explanations for the effect that SNH wished to rely upon. There is no evidence that SNH has properly considered cause and effect, in an objective and scientific manner in the way in which RPS and Mr Scott have. Just as with other chapters of evidence related to SNH's other residual concerns, Dr Douse and SNH have been shown to be highly selective as to the pieces of evidence that they wish to rely upon.

5.213 In that regard, the submissions made by SNH are highly selective and based upon the flawed understanding of Dr Douse/SNH. The understanding of Dr Douse as to what can be taken from the source evidence discussed in SSE_11.58 could only be preferred if there was a sound basis for discounting the evidence of Mr Scott. This is because Dr Douse's conclusions as to what can be taken from the source evidence are so completely different and incapable of being reconciled with Mr Scott's conclusions. While Mr McKenzie tried valiantly in the cross-examination of Mr Scott to persuade him that the different interpretations of the studies, as set out by Dr Douse in his Topic Paper, were in fact the conclusions to be drawn for the source material, he simply gave Mr Scott the opportunity to demonstrate that the conclusions are on a sound footing. It is self-evident that Mr Scott's evidence should be preferred having regard to: the difference in quality of evidence; the difference in level of first-hand knowledge; and, the different approach to testing cause and effect (RPS is scientific and robust in its approach, while Dr Douse's evidence does not disclose that his analysis of issues has this quality). The other reason that SNH's assertion that it should be assumed that birds would be displaced out to 2 kilometres should be rejected as unsubstantiated and without proper foundation, is based on the second reason to adopt Mr Scott's conclusions.

5.214 The second reason for preferring the evidence of the applicant is that it has been shown to be both reliable and credible whereas in contrast, the credibility of Dr Douse and the reliability of his evidence have been called into question not just on one issue but in relation to a number of issues. Specific to this topic, the position of the applicant and its experts as to the significance of impact from disturbance and displacement, has never changed from the conclusions brought out in the ES addendum up to the inquiry. To clarify, this submission is made in relation to the overall effect on the SPA rather than changes in assessment of the impact that came about as a result in a change in baseline information, such as the reduction in estimated collision mortalities in the FIR (2014). There has not been any reason to call into question the credibility or reliability of any of the applicant's ornithological experts. This is to be contrasted with the contrariness of SNH's position, marked by the manifest changeability in the position of Dr Douse, and consequently, in the position of SNH as stated in its advice to Ministers. This shows a clear lack of consistency.

5.215 Apart from the sudden and apparently random introduction of [REDACTED] and additional unspecified and unquantified impacts in the 2 kilometre area around the wind farm, Dr Douse also introduced new allegations of deficiencies in the 2014 data, which had caused him to place no weight on it. The allegation of deficiencies he could not defend. None of the deficiencies that he did specify when pressed in cross-examination, had a bearing on the focal survey work and video footage obtained in 2014, in respect of [REDACTED]. He therefore failed to provide a proper explanation for just setting aside and leaving out of account that data when advising Ministers in January 2015. Having established that there

is no sound basis for not considering this survey work, it was submitted that Dr Douse's decision in this regard was particularly perverse given the long wrangle in the early part of 2014, between the applicant and SNH, over the need for it. The correspondence referred to demonstrates that the applicant and its experts resisted the need for further survey work in 2014 and it was only carried out at SNH's insistence that focal survey work was required because of concerns that the VP work needed to be supplemented by this additional work.

5.216 This issue also calls into question the objectivity of SNH because the applicant has demonstrated through Mr Scott's evidence, under reference to section 6 of SSE_11.58, that the 2014 data were supportive of the applicant's position and not SNH. Yet Dr Douse deliberately "set it aside", to use his words in cross-examination, and maintained his position that it hadn't been demonstrated that the use of [REDACTED] by a breeding pair in 2012 was anomalous.

5.217 Another inconsistency in the position of Dr Douse and SNH relates to its sudden and unheralded adoption of a 2 kilometre distance for displacement of red-throated diver around Strathy South. This runs entirely contrary to its current guidance in which it is acknowledged the relevant distance for disturbance and displacement is 1 kilometre unless there are issues related to the divers flight corridor between water-bodies and the sea (SSE_11.76²⁰¹). It runs counter to its approach in relation to the majority, if not all, other wind farm development in Scotland. It is not supported by the Smøla study because there are other cause and effect factors that Dr Douse seems to consider should be discounted, contrary to the more reliable analysis by Mr Scott.

5.218 This is not an exhaustive list but when coupled with the inconsistencies in SNH's position in relation to greenshank, the reliability and credibility of Dr Douse has been very significantly exposed and consequently, his position in evidence has been undermined. For that reason the applicant does not make any detailed submissions as to the new suggestion that the breeding pair that use [REDACTED] would be disturbed or displaced and make the invitation to accept and rely upon Mr Scott's much coherent and logical explanation that is based on his own, and the experience of RPS from carrying out surveys and acting as Ecological Clerk of Work. In relation to [REDACTED] reliance is also placed upon the fact that when the objection was raised, Dr Douse was unaware of the screening from the natural form of the land between the access track and the loch. The written submission from RPS as to the relevance and significance of the recorded breeding pair circa 700 metres from the nearest turbine at Strathy North that provided new and additional evidence that demonstrated Mr Scott has a sound basis for his evidence that it is unlikely that displacement would occur beyond 700 metres should also be accepted.

5.219 It is submitted that the new "concerns" expressed by Dr Douse in relation to the possibility of impact at [REDACTED] as being unreliable and unsubstantiated should be rejected. Mr Scott explained the basis upon which he was satisfied that locations for breeding and the breeding classifications were correctly stated in the environmental assessment work. He was in no doubt that there would not be displacement of breeding birds from these lochs as a consequence of the construction and operation of the proposed wind farm at Strathy South. On more than one occasion during his cross-examination as to the use of the loch and lochans in the vicinity of the wind farm site, Mr Scott emphasised that while the ES Addendum was based on the 2010 and 2012 survey work, he had not ignored the other work carried out over the other four breeding seasons. That work was all

²⁰¹ SNH (2014) Recommended bird survey methods to inform impact assessment of onshore wind farms. [SSE_11.76]

relevant to an understanding of the use made of the development site and buffer zone, and the trends of relevance to the breeding success of red-throated divers around the site. It must be noted that Dr Douse does not have such first-hand knowledge to have the same level of certainty as to the use made of the site and survey area. When Dr Douse was being pressed in cross-examination to be specific about the alleged deficiencies in the 2014 survey work, he sought to avoid answering the question that he had to accept that by 2014 the RPS surveyors and expert witnesses had a good understanding as to the use made of the site by the qualifying species. He eventually stated that he did agree that they did have a good knowledge of the use of the site and he wasn't questioning their knowledge. This too is relevant as to the evidence to be preferred on the topic of disturbance and displacement.

5.220 Scottish Ministers are therefore invited to accept the conclusions stated in Table 9.3 of Technical Appendix 5.2, in relation to disturbance and displacement.

Red-throated diver - assessment against designations

5.221 The key point in relation to the assessment against designation is that:

- Because collision risk for this species is very small and no lochs that contribute chicks to the population will be subject to displacement should consent be granted, conservation objective 1 would be met. The proposed wind farm would not affect the distribution of species that currently existing within the site, thus conservation objective 2 would be met should consent be granted. Disturbance of red-throated divers would not occur should consent be granted, therefore conservation objective 5 will be met. Conservation objectives 3 and 4 would also be met should consent be granted.

5.222 The updated assessment against the conservation objectives for red-throated diver in Table 9.3 of Technical Appendix 5.2 should be accepted. The mitigation measures considered necessary to protect particular lochs from disturbance are detailed. Conditions have been agreed with SNH, THC and RSPB Scotland in relation to these mitigation measures. The now standard condition in relation to the appointment of an Ecological Clerk of Works would be implemented, which brings with it additional confidence as to the management of construction activities. The applicant has offered additional measures such as rafts and additional screening, which have been rejected by SNH to date. If, however, SNH was to change its position in the event that consent is granted, then the applicant would be amenable to considering these additional measures. However, this is not a consideration to be taken into account as they are not agreed mitigation measures and the assessment of residual impacts does not depend upon the provisions of these options.

5.223 The position of the applicant is that on the basis of the detailed survey work carried out to date, and reported upon in the ES addendum and FIR (2014), together with the inquiry reports produced for the inquiry to address the myriad of concerns that SNH and RSPB Scotland have in relation to the four qualifying species of relevance to their objections, there is a sound basis for concluding that these objectors' residual concerns will not lead to the conservation objectives being undermined. In that situation, the onus of proof reverses to SNH and RSPB Scotland to produce scientific evidence upon which an opposite conclusion can be reached. They simply have not done that and as a consequence, have demonstrated that they have never had a sound scientific basis for maintaining their objections. Further, on the basis of the information provided by SNH, it is

not accepted that these new additional impacts that have been brought up in the Topic Paper are new potential impacts that have not already been addressed through the assessment work.

5.224 RSPB's position on disturbance and displacement rests upon SNH making out its case in evidence, which it has patently failed to do. The lack of substance to the arguments advanced by RSPB Scotland in relation to collision risk and the fact that this ground of objection appears to have been dropped has been addressed.

5.225 Under reference to the submissions made above, as to the correct approach to applying the legal tests contained in Article 6(3) of the WBD, and the submissions made at the beginning of this section that are specific to SNH's approach to the evidence on red-throated diver, the applicant would invite Scottish Ministers to conclude that it has been ascertained from the scientific assessment carried out by RPS that they can be certain that the integrity of the site would not be adversely affected as a consequence of the predicted impacts on red-throated diver. In reaching this conclusion regard should be had to:

- The considerations set out above that are of relevance to their assessment of the weight that can be attached to the evidence produced and relied upon by the applicant and its expert witnesses, as discussed in this section in relation to the particular controversial issues in the evidence concerning the predicted impact on red-throated diver, and the implications for the SPA.
- The evidence of Mr Scott, produced in writing and oral evidence, together with the supporting inquiry documents that he has relied upon in his consideration of the issues. In addition, Ministers should have regard to the confidence with which he gave his evidence and the manner in which he dealt with the varied new potential impacts raised by SNH. It is clear from his evidence that he is certain that there is no reasonable scientific doubt associated with the conclusions expressed in his evidence.
- This is in contrast to the manifest lack of understanding on the part of SNH as to what conclusions can properly be reached on the scientific literature in relation to the extent of displacement of red-throated divers from wind farms, coupled with a lack of practical first-hand knowledge has led Dr Douse and SNH to state in evidence a position on the displacement distance of 2 kilometres that is contrary to its established position in relation to other wind farm development and its guidance. It was also exposed through the cross-examination of Dr Douse, that he has adopted a wholly unreasonable approach in rejecting the survey data from 2014 that he insisted upon in relation to [REDACTED]. As to demeanour, it was submitted, as with his evidence on greenshank, Dr Douse was often equivocal rather than straightforward and confident on important issues, and, his changing advice throughout the consultation process and at inquiry also supports the conclusion that his evidence should not be preferred to that of the applicant's witnesses as it is unreliable. The position of RSPB Scotland depended upon SNH's position in relation to displacement and disturbance and if it maintains an objection in relation to collision risk it has no site-specific evidential basis for doing so and is maintaining a position that is not supported by the scientific study that has resulted in SNH's proposal to increase the avoidance rate for red-throated diver. The minimal "evidence" in the topic papers for these objectors is far outweighed by the substantial body of evidence produced by the applicant and its experts.

- The careful analysis of the evidence that is provided in the preceding discussion in this section.
- The considerations founded upon in this section that demonstrate that the objections from SNH and RSPB Scotland in relation to red-throated diver are completely lacking in substance and credibility. In particular, the specific grounds of objection, do not give rise to any reasonable scientific doubt as to the implications for the integrity of the SPA; it would not be adversely affected as a consequence of the predicted impacts in respect of red-throated diver. In that connection reference was made to the legal submissions as to the nature of the evidence that can reasonably be expected from objectors contesting a wind farm proposal that has implications for a Natura site.

5.226 On that basis it was submitted that Scottish Ministers are entitled to conclude that the assessment against the conservation objectives that is provided in Table 9.3 and supported by the evidence of Mr Scott, can be relied upon and that no reasonable scientific doubt remains.

WOOD SANDPIPER

5.227 It is, of course, a matter of public record that SNH has withdrawn its objection in relation to Strathy South following upon the applicant's commitment to remove turbine 51 because of its proximity to the location of a recorded pair of wood sandpiper located on Yellow Bog. The reasoning that lay behind SNH's decision to withdraw its objection in respect of wood sandpiper can be understood from the formal consultation responses of 20 November 2014 (Annex 1 at page 11 and Annex 3)²⁰² and 8 January 2015 (page 3)²⁰³. Based on a review of limited scientific literature, SNH concluded that there was the potential

[REDACTED]. It is not disputed by the applicant's expert that there is a limited amount of published literature but for the reasons that shall come to be elaborated upon as to the basis for the conclusion that there is no or little activity on the development site or its immediate environs within the SPA, it is the applicant's position that this is not an issue that gives rise to any reasonable scientific doubt as to possible impacts on SPA wood sandpiper. For that reason, SNH recommended removal of turbine 51 and was content this measure would be sufficient to minimise or remove the risk of displacement or loss. It is emphasised that this conclusion was reached by SNH even although the number of breeding pairs in the SPA was stated by SNH to be six breeding pairs (SNH R-4), and there is no dispute that a loss of one breeding pair would be significant.

5.228 Notwithstanding the fact SNH was willing to take into account removal of turbine 51 and re-evaluate their earlier assessment of the risk of losing a breeding pair of wood sandpiper, this did not influence RSPB Scotland and it has maintained its position of objection in relation to this species. The main reasons for disagreeing with both SNH and the applicant's expert advisers are set out in the RSPB Scotland topic paper²⁰⁴. It would appear that RSPB does not itself hold any records of the species within 2 kilometres of the site, even although it has an adjacent land holding. Despite the fact that Dr McCluskie had the opportunity to highlight in his precognition any alleged inconsistencies between the RPS inquiry report on wood sandpiper (SSE_11.59²⁰⁵) and information contained in either the

²⁰² SNH response to ES Addendum dated 20 November 2013. [SHN R-4]

²⁰³ SNH response to amended application dated 8 January 2015. [SNH R-5]

²⁰⁴ RSPB Topic Paper. [RSPB D23]

²⁰⁵ RPS (2015g) Wood Sandpipers and Strathy South Wind Farm. [SSE_11.59]

addendum to the ES or the FIR, the detail of the issue was first raised in the cross-examination of Mr Scott. Although it is accepted that the broad issue of whether the survey work was reliable had been raised in RSPB's written evidence. For that reason the more detailed questions were not objected to and the matter was not re-examined upon because it was considered that Mr Scott had more than adequately explained the position in relation to the questions that he was asked. It was therefore surprising to discover from RSPB's closing submissions that it was thought this issue was of sufficient importance as to cause RSPB Scotland to rely upon the exchange in cross-examination, as a basis for undermining the reliability of Mr Scott's evidence in relation to wood sandpiper; together with the exchange as to the source of RSPB document G6. RSPB Scotland alleges in its closing submission that Mr Scott "became increasingly desperate" in response to questions. In response, when one objectively and fairly assesses the evidence on the key issues, then any suggestion as to "desperation" on the part of Mr Scott can be dispelled, as can any suggestion that his evidence is not reliable in relation to this qualifying species.

Wood sandpiper - survey work

5.229 Key points related to the survey work:

- Use of the site and its environs by wood sandpipers.
- Extensive surveys for flight and breeding activity were undertaken from 2003 to 2014 at Strathy South, over six breeding seasons during temporal periods in which wood sandpiper would be detected if they were present.
- The species occurs rarely, less than annually in the Strathy South area, and only for brief periods.
- For breeding to take place there need to be two birds, a male and a female, copulation to occur, and birds need to be present for a prolonged period, to lay eggs, incubate and raise young.
- Breeding was not confirmed in any year. All birds recorded were judged to be brief stayers.

5.230 Vast numbers of wood sandpipers breed in northern Europe and migrate through the UK in both spring and autumn from their African wintering grounds, when they stop off in wet areas. These birds may loiter for several days, but they do not breed. This is normal behaviour for this species. This important behavioural consideration has been emphasised in the evidence for the applicant, because of its relevance and importance in providing the context within which to consider the use of the site/survey area by this species. It is evident that Mr Scott has taken this behavioural consideration into account for the purposes of interpreting the survey evidence. This behavioural consideration is simply ignored in the closing submissions for RSPB Scotland, perhaps not surprisingly because it does not fit with its theory that the sightings of wood sandpiper should be treated as evidence of breeding birds. In contrast, Mr Scott does take this consideration into account and for that reason he is not surprised that the survey work discloses that the species occurs less than annually at Strathy South and only for brief periods.

5.231 He emphasised throughout his cross-examination that despite extensive and continuous surveys during the breeding season²⁰⁶, from 2003 to 2015, there was no

²⁰⁶ Technical Appendix A11.1 Confidential, Part 1, section 2.1 (pages 10-12 for survey effort 2003 - 2012) and Technical Appendix 5.2, section 5 at pages 12 – 16 for survey effort 2014, SSE_11.59 and SSE_11.133 which summarises the total survey effect (page 11). [CD 4.5 and CD 5.2]

evidence of breeding. In response to a question from me, Mr Scott explained that during the breeding bird surveys, there were occasions on when the surveyors were on site overnight and in the event that the presence of a wood sandpiper had been recorded, the surveyors would then watch over the location during their time on site. He also explained that attempts were made to ascertain if there was any evidence of breeding. On that basis he was confident in his assessment that notwithstanding the classification of possible and probable breeding in the records, it was likely that the birds recorded were brief stayers in the vicinity of the site.

5.232 RSPB Scotland does not dispute the extensive survey effort but would suggest that the absence of evidence of successful breeding on or near the development site should be attributed to poor survey work or inaccurate recording. In that regard, RSPB's response to the emphasis that Mr Scott places on the hours of survey work for this development site over a very long period, 2003 to 2015, is to suggest that is irrelevant if the quality of the work is poor. This is but one of many examples where RSPB Scotland claims deficiencies in the survey work to justify its position of objection, but does not provide any evidence from any survey work that it has, or could have, carried out to support that allegation. It is strange that a zero return on a survey is, in this case, interpreted as meaning only thing; that the survey was defective. It is particularly strange having regard to the fact that RSPB Scotland is a scientific organisation and is aware that the survey effort at this site far exceeds survey effort at other sites that are carried out strictly in accordance with SNH guidance and that the survey information exceeds the minimum requirement of the guidance in place at the relevant time; i.e. only one or two years survey information. Consideration of the issues between RSPB Scotland and the applicant should be viewed from the standpoint that this is not a site that is used regularly by this species. The use is, as Mr Scott described, sporadic and RSPB Scotland cannot pretend otherwise in an attempt to give substance to an objection for which it has no scientific basis. Its objection is based on speculation and assertion and should not be given any weight.

5.233 RSPB Scotland seeks to underplay the significance of recording the absence of a breeding pair or, indeed, any evidence of successful breeding. For the purposes of assessing the impact on the SPA population, the issue that is of importance is the presence of breeding pairs, not single birds; no party to the inquiry has suggested otherwise. The discussion centred around the effect of particular impacts on population levels; it is self-evident, therefore, that detection of breeding pairs is essential for the purposes of assessing the importance of the survey area to a particular species. The evidence given by Mr Scott in response to the questions in cross-examination, and to my questions, demonstrated that he well understood the importance of ascertaining if the recorded presence of a single wood sandpiper, or a pair, should or should not be categorised as a possible, probable or confirmed breeding attempt. It was also apparent that his understanding as to the use made of the site and the wider survey area was not based on forensic analysis of records contained in the ES addendum, FIR or inquiry report SSE_11.59, which is all that RSPB Scotland had to go on. In contrast, he had discussed the survey records with the surveyors and he knew the efforts that they had gone to in order to find evidence of breeding on the few occasions that wood sandpiper had been observed on site. The point has been made earlier as to the basis upon which the weighing of evidence can provide a sound basis for dismissing an objection. It was apparent from the evidence of Mr Scott (not just in relation to wood sandpiper but also greenshank and red-throated diver) that he had intimate knowledge of the Strathy valley based upon his own involvement with survey work on the site, and wider area. His personal involvement in survey work comes from the statement in his evidence that he was in fact the first to observe this species on the site.

5.234 RSPB Scotland is alive to the fact that for its objection in relation to wood sandpiper to be given any weight, evidence is required that demonstrates that the site is used by wood sandpiper for breeding. In cross-examination and in closing submission (paragraph 4.31 in particular), RSPB Scotland has attempted to create the impression that there is no doubt as to the importance of the development site and its immediate environs for this species. But, it was done by getting agreement from Mr Scott that the SPA is an important site and that the wood sandpiper is a rare and important bird in the SPA and then, in a leap of logic, suggests that necessarily the development site and its immediate environs outwith the site boundary and in the SPA should be treated as very important habitat for wood sandpiper from which breeding pairs would be displaced or disturbed. However, the development site is not in the SPA and there is no evidence of either breeding pairs or successful breeding in the SPA areas that surround the development site. In considering the closing submission from RSPB Scotland in relation to this particular ground of objection one should have regard to the actual area encompassed within the SPA boundaries, and the relatively small number of breeding pairs (6 pairs²⁰⁷), and then consider the question of whether or not it is so surprising that no wood sandpiper detected.

5.235 RSPB Scotland having no evidence to contradict the conclusion reached by RPS that there is no evidence of breeding associated with the few sporadic sightings of wood sandpiper in proximity to the site, had to resort to lines of cross-examination that was intended to discredit the survey work. There were two main lines of cross-examination which sought to build a case in closing submission to support objection in respect of wood sandpiper. The first line of argument was that there are discrepancies between the ES addendum, the FIR and the inquiry report 11.59, in relation to the presence and activities of wood sandpiper in July 2010. The second main line of cross-examination centred on whether or not the sighting of a bird alarm calling or agitated should be classified as a confirmed breeding bird rather than a possible or probable breeding bird. Both lines of cross-examination were directed toward the same point that RSPB Scotland was seeking to establish that the records in relation to wood sandpiper were not accurate.

5.236 In relation to the first line of argument, Mr Scott did not accept that the alleged discrepancies are of any significance as regards his conclusion that the site and its environs is not an important area for breeding wood sandpiper. The allegation made against him in closing submission is that Mr Scott sought to mislead through the way in which his evidence was presented (see paragraphs 4.36 to 4.41). This was not an allegation put to Mr Scott and as a matter of fairness the conclusion that RSPB Scotland seeks to draw as to the credibility of Mr Scott should be treated with disdain.

5.237 During the evidence of the witnesses both Junior Counsel and SSE's instructing solicitor were taking notes of the evidence. These notes were produced at the end of each day in typewritten format and have been used extensively in the production of closing submissions. On the basis of the applicant's record of the evidence it is suggested that the point put to Mr Scott as a precursor to this line of cross-examination was that it was important to have accurate records for the purposes of assessment. Mr Scott agreed with this broad point and it was then suggested that there was a lack of consistency between different documents before the inquiry. At no point was it put to the witness that in the inquiry report, SSE_11.59, Mr Scott had deliberately omitted what RSPB Scotland claims

²⁰⁷ SNH November 2013 response. [SNH R-4]

should be a record of a “probable” rather than a “possible” breeding attempt. That allegation is made for the first time in closing submission.

5.238 At the outset of my questions, I sought clarification from Mr Scott as to the nature of the sightings in July 2010 in relation to: the number of sightings; the number of birds sighted; and, the basis upon which RPS had reached a conclusion as to the appropriate breeding classification. Findings on that subject should be based on the explanation from Mr Scott rather than RSPB’s unfair and slanted misrepresentation of his evidence in closing submissions. Throughout his questioning, Mr Scott was unshakeable in his opinion that there is no evidence of breeding wood sandpiper at or around the pool system at which they were sighted in July 2010. He was entitled to adhere to the conclusion brought out from his own evaluation of the survey findings for the reasons explained above. The evidence before the inquiry shows that there have been no sightings of wood sandpiper since 2011 at this pool system, despite extensive and continued breeding bird survey work over the period 2012 to 2015. Mr Scott advised in response to my questions that as at the date of the inquiry there had been no sightings in 2015.

5.239 Similarly, in closing submission there is a separate attempt to call into question Mr Scott’s conduct as an expert witness (see paragraph 4.44 of RSPB’s closing submission) linked to the second line of cross-examination. The characterisation of the exchange between Mr Scott and Ms Cockburn (RSPB Scotland) in relation to the origins of the RSPB Scotland document G6²⁰⁸ containing breeding classifications, as an attempt “to justify these fundamental discrepancies” is again unfair. From the notes of evidence, this exchange began with Mr Scott simply stating he could only take it from Ms Cockburn that the document was guidance from Rare Breeding Birds Panel (RBBP) but he could not confirm if it was or it was not. This then developed into a debate over whether the document did or did not contain an accurate representation of the RBBP’s categorisation and Mr Scott’s position was that he could not be sure without checking and there were aspects of the document that made him question its origins. The attempt to turn this exchange into something of great import that calls into question Mr Scott’s “conduct” as an expert witness, demonstrates the complete lack of substance to RSPB’s objection on wood sandpiper and calls into question the credibility of the RSPB. Contrary to the assertion at paragraph 4.43 there was no attempt by Mr Scott to impugn the RBBP’s reputation motivated by the fact the RSPB Scotland is a leading partner. Yet again this allegation was not put to Mr Scott.

5.240 Such was the lack of significance that the applicant’s legal and technical representatives placed on this issue that Mr Scott was not re-examined in relation to the matter nor was it followed up with Dr McCluskie. RSPB Scotland notes that Dr McCluskie’s evidence on this issue was not challenged (paragraph 4.42) and seeks to make something of that fact. The reason for the approach taken to Dr McCluskie on this point is obvious. It was considered that by Dr McCluskie giving evidence as to what he had ascertained by checking the website, he was able to resolve for the inquiry the issue raised by Mr Scott’s evidence, which was that without checking the website he personally could not confirm to the inquiry that document G6 was the RBBP’s guidance on breeding classifications. It appears that Dr McCluskie also had to check the website to satisfy himself as to the status of the guidance.

5.241 Following on from that point, it should be recorded that Dr McCluskie was not cross-examined in relation to wood sandpiper because neither he nor his employers, RSPB

²⁰⁸ Rare Breeding Birds Panel: Recording Guidelines for Wood Sandpiper. [RSPB G6]

Scotland, provided any site specific evidence to the inquiry of breeding pairs of wood sandpiper in the area of the SPA adjacent to the development site. There simply is no factual or scientific basis for the assertion that there have been breeding birds in and around the development site, and without a shadow of a doubt there is absolutely no evidence to support the fanciful assertion in paragraph 4.46 of RSPB's closing submission that there are wood sandpiper nests in close proximity to turbine locations. Not only has RSPB Scotland failed to provide any evidence of such nests, it was not even suggested in cross-examination to Mr Scott that there was evidence of nests. All that was discussed was whether or not a single bird alarm calling and agitated in July 2010 should have been treated as a confirmed breeding bird. For all of the reasons discussed above, it should be concluded that the RSPB Scotland objection in relation to alleged impacts on an imaginary breeding pair of wood sandpiper is based on speculation and assertion and should not be given any weight.

Wood sandpiper - collision risk

5.242 There is considered to be no risk of collision for wood sandpiper at Strathy South, based on field observations, and this is covered in paragraphs 4.12 to 4.14 of SSE_11.59 and paragraph 4.5 of Mr Scott's precognition. Mr Scott confirmed wood sandpipers do not generally fly at collision height, and he advised that they normally flew at a height of 10 metres. RSPB Scotland state in the topic paper and precognition that there is an unacceptable risk of collision but this was not amplified upon in evidence and is predicated on RSPB's assertion that there are breeding birds in proximity to the site. Notwithstanding this position in the written evidence to the inquiry, there has been no challenge to Mr Scott's evidence that there is no risk of collision. He was not cross-examined on this evidence and there is no mention of collision risk in the RSPB Scotland closing submission. If the evidence of Mr Scott regarding the proper interpretation of the survey records and the lack of evidence of breeding pairs around the site is accepted, then it could be concluded that there is no collision risk associated with this species.

Wood sandpiper - habitat loss and disturbance

5.243 As will be appreciated, there are no proposed turbines located in areas where wood sandpipers have been recorded. Habitat loss and disturbance are not, therefore, considered to be an issue for this species at Strathy South. This may appear to be a contradictory position given that the applicant acceded to the request from SNH to remove turbine 51. This matter has already been addressed but it should also be noted the basis upon which the applicant originally agreed to remove this turbine. RSPB Scotland makes reference in closing submission (paragraph 4.38) to the letter from Dr Zisman to SNH in which this offer was made. It is produced to the inquiry as part of Appendix 4 of Technical Appendix 5.2 and is dated 24 December 2013²⁰⁹. It will be noted from page 5 of the letter, at which SNH's outstanding objection in respect of wood sandpiper is discussed, that the offer was originally made on condition that all other remaining matters could be resolved with SNH. The applicant has now made the commitment to remove the turbine and adheres to that position notwithstanding the assessment carried out by RPS as regards the absence of risk so far as wood sandpiper is concerned. It may be considered overly precautionary on the evidence but the applicant is content to have resolved the issue with SNH on that basis. The applicant's position is noted at paragraph 2.1.9 and 2.1.10 of the Inquiry Statement.

²⁰⁹ FIR technical appendices (2014). [CD 5.2]

Wood sandpiper - assessment against designations and appropriate assessment

5.244 Because very little activity, and no breeding activity, has been recorded on or around the proposed wind farm site, it can be concluded that no breeding pairs of wood sandpiper would be lost or disturbed. It follows from this conclusion that conservation objectives 1 and 5 will not be undermined and there is no significant effect in relation to these objectives. It is also submitted that it is clear from the evidence that there would be no effect from the wind farm on the distribution of breeding wood sandpiper within the Caithness and Sutherland Peatlands SPA and there is therefore no adverse effect in relation to conservation objective 2. No issue has been raised in relation to the habitats supporting the species out with the development site, and, in view of the fact that the development site is currently afforested with commercial forestry where there have been no sightings of this species, it is concluded that there would be no adverse impact in relation to conservation objectives 3 and 4.

5.245 In contradiction to this position, RSPB Scotland contends in evidence and closing submission that Scottish Ministers have no discretion to do anything other than refuse consent. As discussed above, this is not on the basis of evidence lead by this objector from which it can be concluded that the site and its immediate environs are in fact used by breeding pairs of wood sandpiper that will be impacted upon if the wind farm is built and operated. The case is founded solely on the criticisms of the survey evidence, the misguided attempt to undermine the credibility of the applicant's witness, and, the fanciful assertion in closing submission that there are turbines located within 300 metres of "wood sandpiper nests" (paragraph 4.46). The suggestion by RSPB Scotland is that the applicant has not produced evidence that the birds sighted were not breeding. That is to say that the applicant somehow had to provide evidence of something that had not happened; namely no building of nests and no establishment of a territory within which chicks were being reared.

5.246 The position of RSPB Scotland in submission is that the Ministers must refuse consent based on an overly forensic examination of reports and an allegation of bad faith, rather than an evaluation based on extensive survey work that far exceeds the requirements of SNH's guidance, discussion with surveyors involved in the survey work, and first-hand knowledge of the use made of the site by wood sandpipers. Such an approach to the application of the relevant principles and concepts, does not accord with EC guidance nor does it accord the guidance provided in the judicial dicta referred to above. The superficial reasoning involves numerous leaps of logic and ignoring important evidence. It fails to put into context the minor criticisms that were pursued in cross-examination by not looking at what can be concluded from the whole body of survey work. To suggest that a whole body of survey work collected over six breeding seasons (SSE_11.133, paragraphs 1.1 and 2.1) should be discarded and not relied upon because of a dispute over whether one sighting should have been classified as a "probable" rather than "possible" breeding bird, does not bear scrutiny. It is not only unscientific but it is completely illogical and is not supported by any guidance on survey work. To describe the issues discussed with Mr Scott as a "fundamental flaw" in the totality of the survey work and the whole of the assessment of the use made of the site and its environs by this species, is such a gross overstatement that it creates a misleading impression as to the nature of the evidence available to the competent authority. When the complete lack of substance to the RSPB Scotland objection in relation to wood sandpiper is exposed, it is submitted that Mr

Scott was perfectly entitled to describe this particular objection as unreasonable and overly precautionary.

5.247 In that regard, reference is made to the legal submissions above in relation to the nature of the evidence that can reasonably be expected from objectors contesting a wind farm proposal that has implications for a Natura site.

5.248 Under reference to the submissions made above, as to the correct approach to applying the legal tests contained in Article 6(3), Scottish Ministers are invited to conclude that it has been ascertained from the scientific assessment carried out by RPS that they can be certain the integrity of the SPA would not be adversely affected as a consequence of potential impact on wood sandpiper. In reaching that conclusion regard should be had to:

- The considerations set out above that are of relevance to the assessment of the weight that can be attached to the evidence produced and relied upon by the applicant and its expert witnesses.
- The evidence of Mr Scott.
- The careful analysis of the issues that were debated in evidence that is provided in the preceding paragraphs in this section.
- The considerations that are founded upon above which demonstrate that the RSPB Scotland objection in respect of wood sandpiper is completely lacking in substance and credibility.

5.249 On that basis it was submitted that Scottish Ministers are entitled to conclude that the assessment spoken to in evidence by Mr Scott can be relied upon and that there is no reasonable scientific doubt remaining. The proposed mitigation for this species is addressed, and while it was submitted that it is not necessary for the purposes of ensuring that there is not a significant adverse effect on wood sandpiper through either displacement or loss of a breeding pair, in this instance the applicant is prepared to agree to this over precautionary approach. It can, therefore, be confidently stated (as Mr Scott did in his evidence when answering questions on this issue) that there is no need to remove any other turbines that are also in proximity to the SPA boundary.

HEN HARRIER

5.250 As with wood sandpipers, following submission of the ES addendum, SNH originally maintained a position of objection in relation to hen harrier on the basis that it was not certain that the breeding pair recorded nesting within the development site would not be disturbed through construction or operation. This can be seen from that consultation response in November 2013²¹⁰. There was no objection on the grounds of collision risk. Following submission of the FIR, by letter dated 8 January 2015, SNH confirmed to the DPEA that it was not maintaining its objection as it had concluded on the basis of the information contained in the FIR that the estimated collision mortality of one hen harrier every 9.09 years would not adversely affect the integrity of the SPA²¹¹. In response to the publication of the RPS inquiry reports, a further representation was made by SNH on 28 May 2015, based upon its review of those reports (FEI 1, which has been already referred to). Having regard to the terms of the Outline Habitat Management Plan (OHMP)²¹², SNH

²¹⁰ SNH November 2013 response. [SNH R-4]

²¹¹ SNH January 2015 response. [SNH R-5]

²¹² RSP (2015h) Outline Habitat Management Plan for Strathly South – Version 1. [SSE_11.60]

advised that it would maintain its position of no objection in relation to hen harrier provided that conditions were attached to ensure sward management was carried out on the site to mitigate the risk of collision. This is addressed below under the sub-topic of mitigation.

5.251 RSPB Scotland, however, maintained an objection in relation to hen harrier and has set out in its topic paper, the basis upon which it continues to argue that collision risk in relation to hen harrier has been underestimated and that the proposed wind farm would have an unacceptable impact on the SPA population. The point has been made as to the absence of site specific evidence in the case for RSPB, and, the limited knowledge that Dr McCluskie has of the site specifically. The project specific issues, not site specific issues, addressed in Dr McCluskie's evidence in the Topic Paper cover two and a half pages. These are summarised in Dr McCluskie's precognition and, in summary, relate to increased risk of collision when engaged in display flights that is said to render the use of the Band model inappropriate, particular issues related to the survey work, and questioning of the applicant's position on population viability. The discussion of the issues that were debated in evidence is provided in the following sections under reference to the topics identified in paragraph 20 of procedure notice 3²¹³.

Hen harrier - the ornithological survey method

5.252 The following key points are made:

- Hen harriers are a straightforward species to survey. They are medium-sized day-time flying raptors of open habitat, with well-known breeding behaviours, comprising conspicuous activities such as display flights at altitude, and food passes between adult birds. Where nesting is successful, conspicuous, frequent and prolonged feeding of young by parent birds takes place over a period of several weeks.
- Specific breeding surveys designed to establish the breeding location, success and flight activity of hen harriers have been completed over several years, informed by knowledge of the species' local seasonality and survey timings relevant to Strathy South's north of Scotland location. Sustained breeding and flight activity surveys have been carried out for hen harriers at Strathy South for five breeding seasons, over the period 2003 to 2014. These data on hen harrier breeding and flight activity has been further expanded by surveys at Strathy North and Strathy Wood. Combined with additional records from the Highland Raptor Study Group and RSPB Scotland, these results have been used to establish a highly robust baseline assessment of breeding numbers, distribution, and flight activity throughout the site and more broadly in the Strathy valley.
- As a target species, any observations by surveyors of hen harriers on their way to, from, or during other surveys have also been recorded, adding to the overall dataset on the distribution, behaviour, knowledge and breeding activity of this species on and around the site.
- SNH has not, at any point, raised any concerns regarding survey dates or coverage in relation to hen harriers.
- The resulting baseline survey coverage and resulting data on hen harrier breeding and flight activity at Strathy South and more widely in the Strathy glen is comprehensive. It significantly exceeds standard requirements and is more than sufficient to enable the pre-requisite level of certainty to be achieved.

²¹³ Procedure notice 3.

5.253 As is evident from the transparent and detailed accounts of baseline survey methods and survey coverage provided by the applicant²¹⁴, the openness in presentation of survey dates, together with its consideration of the potential implications of these dates on the resulting baseline data will be appreciated. This is, of course, as it should be.

5.254 Drawing on his significant experience Dr Zisman set out in his precognition, and during cross-examination, his considered view that there is no significant risk of under-recording of breeding harriers at Strathy South. In cross-examination and in closing submissions however RSPB Scotland, presumably in an attempt to portray some limitation in respect of his own involvement in the consideration of RSPB's objection, chose to highlight that the applicant's detailed review on hen harriers in response to the RSPB Scotland objection (SSE_11.57²¹⁵) was authored by Dr Helen Riley. It is stated in terms by RSPB Scotland that Dr Zisman's "role in the Hen Harrier report was confined to authorising it" (paragraph 4.48). A disproportionate length of time was spent in cross-examination on this attempt to devalue Dr Zisman's contribution to the work contained in that report. The line of questioning is based on speculation and an assumption that a front sheet on a report related to RPS's internal system for quality management, is somehow determinative of the level of contribution from the individual contributors. There is no dubiety as to the appropriateness of leading Dr. Zisman to speak to the report SSE_11.57.

5.255 He has had eight years' involvement investigating and leading on ornithological issues at Strathy North and Strathy South, and brings a depth of knowledge on the site's survey history and harriers that is unparalleled in relation to any other witness. It is the combination of both knowledge of the species and the site, which places him in a much better position than RSPB Scotland's own witness to speak to site specific issues that are informed by site survey work. Although, to Dr McCluskie's credit, when he came to give evidence he did not in any way associate himself with this line of attack regarding the collaboration in the production of SSE_11.57. In that regard, this line of questioning was a counter-productive line so far as RSPB Scotland is concerned given the lack of site specific knowledge that its own witness has in relation to both Strathy South and Strathy North. In cross-examination Dr Zisman perceived a criticism against Dr Riley and provided the inquiry with a brief synopsis of her experience gained as a former employee of SNH, active in this area of research and being in possession of a number of years of relevant experience.

5.256 The Applicant has lodged a number of inquiry documents that are an array of scientific papers that are supportive of conclusions drawn in the RPS inquiry reports, including those referenced in SSE_11.57. All parties have followed this procedure. Dr Riley is named as a co-author in a number of these scientific papers that are specific to hen harrier. These are on the topics of hen harrier conservation in the UK, a JNCC report published in 2011²¹⁶ the standard guidelines on raptor survey methods²¹⁷, and status of the hen harrier in the UK²¹⁸. From this, it is suggested that considerable confidence can be placed in consideration of RPS's response to the grounds of objection maintained by RSPB Scotland, which clearly benefits from the combined expertise of both Dr Zisman and Dr Riley. In retrospect, this issue resulted in the opportunity to explain the particular strength of the co-authors working together.

²¹⁴ Technical Appendix A11.1, SSE_11.57 and SSE_11.133. [CD_4.5]

²¹⁵ RPS (2015e) Hen Harrier Interactions with Operational Wind Farms and Response to RSPB Objection. [SSE_11.57]

²¹⁶ A conservation framework for Hen Harriers in the UK. [SSE 11.26]

²¹⁷ Raptors: A field guide for surveys and monitoring. [SSE 11.113]

²¹⁸ Status of the Hen Harrier *Circus cyaneus* in the UK and Isel of Man in 2004. [SSE_11.94]

5.257 An incontrovertible fact from the evidence is that survey effort and coverage for breeding hen harriers has exceeded SNH requirements several times over. All supplementary data from SNH, RSPB Scotland and the Highland Raptor Study Group have also been taken into account, to further inform the breeding distribution and history in the area. This includes the national survey results, for which the survey timings required two visits (in suitable weather conditions) from early April onwards and July inclusive²¹⁹. Taking account of the fact that harriers breed from south Wales to Orkney, and given the UK's climatic gradient means breeding dates are later in the north than south, it is entirely appropriate for the Strathy South breeding harrier surveys to have been carried out when they were.

5.258 The point being made by RSPB Scotland in its closing submissions (at paragraphs 4.68 and 4.69) rather reflects its determination to be critical of the survey work regardless of the evidence. Just as with the criticisms made on the objectors' closing submissions in respect of the other species, care has to be taken in relation to hen harrier when reading RSPB's closing submissions. The reliance that can be placed on the objectors' closing submissions depends upon the level of understanding on the part of those authoring the submissions, in relation to the particular issue concerned. See for example at paragraph 4.69, the applicant suggests that RSPB Scotland has got the references to breeding bird surveys and vantage point surveys the wrong way around. The suggestion from Dr McCluskie is that hen harrier on the development site may not have been detected in the surveys because of the afforestation, and, that there may have been an under-recording of breeding attempts. Hence, excepting the question of display flights, RSPB's objection questions the reliability of the breeding raptors surveys in relation to whether or not there was a proper understanding of the distribution and number of hen harrier on site and if breeding pairs had been under-recorded. In response to that it had been explained by Dr Zisman that the presence and distribution of hen harrier on site was not solely dependent on the breeding bird survey, as a surveyor carrying out a VP survey would also record any sightings of hen harrier.

5.259 Regardless of whether or not RSPB's closing submissions proceed upon an erroneous understanding, vantage point surveys, as has already been established, are the standard survey methodology for determining flight activity at wind farm sites, and have been recommended by SNH as the fundamental requirement since 1999²²⁰. The point being made by Dr Zisman in response to cross-examination is that it is established ornithological surveying practice to note the presence and activity of target species, regardless of the purpose of the particular survey being carried out at the time. Much has been made of display flight activity in RSPB's submissions as being indicative of breeding territories. In fact, the RSPB Scotland go as far as to note (at paragraph 4.66) that "display flights, ... may be crucial in identifying breeding attempts".

5.260 Given the conspicuous nature of these display flights they will be recorded through vantage point watches. The point made by Dr Zisman in cross-examination was therefore entirely reasonable and correct; that surveyors' knowledge and records of target species are built from the cumulative survey coverage, including vantage point surveys. As Dr Zisman conveyed, the job of the professional ornithologists employed to carry out bird surveys is to record bird observations of target species, in accordance with standard survey techniques and to record whatever bird calls, bird sightings, behaviours, interaction

²¹⁹ The status of the Hen Harrier *Circus cyaneus* in Scotland (page 448). [SSE_11.92]

²²⁰ RPS (2015i) An Assessment of Survey Effort at Strathy South Wind Farm (Table 1.1). [SSE_11.133]

between bird species, and habitat characteristics that help to inform understanding of the distribution and activity of key species. As Dr Zisman noted, layer by layer, from knowledge of habitat suitability, generic breeding moorland bird surveys (i.e Brown & Shepherd), species-specific breeding surveys, vantage point flight activity surveys, targeted species-specific vantage point flight activity surveys, and throughout the walk in and outs from all of these surveys, observations are accumulated of bird activity and distribution. There is no dispute that each survey has its particular purpose, but it is however, self-evident that observations and understanding of bird distribution and activity is cumulative, and informed by all survey work.

5.261 It was therefore to convey this point, and not to redress any “obvious omissions” supposed by the RSPB Scotland (paragraph 4.69) that Dr. Zisman highlighted that vantage point survey coverage in certain years had been contiguous from the non-breeding to breeding season, providing flight activity survey coverage in March and April, and the resulting opportunity to record hen harrier display flights (CD 4.5, Appendix 1). In the same section of closing submission in which it is suggested that Dr Zisman was addressing “obvious omissions”, it is suggested by RSPB Scotland at paragraph 4.70 that there is some significance to be attached to the fact that Dr McCluskie’s response to questions that there is no dispute that the surveys, including breeding bird surveys, was not challenged further. His response being that in his opinion Brown and Shepherd breeding bird surveys are a very poor way of surveying raptors. It has been explained in response to this often repeated line of reasoning from RSPB Scotland, that the decision as to what issues to concentrate on, or pursue, in cross-examination are matter of judgement based on a range of considerations. Standing the explanation from Dr Zisman in his evidence to the inquiry in relation to the way in which knowledge of the use and distribution of target species over a sites is gained, and summarised in the preceding paragraphs, it was considered that Dr Zisman had effectively explained that conclusions on the quantification of numbers, and identification of locations of breeding pairs at this site, did not depend solely on the breeding raptor surveys. In relation to this part of the submission from RSPB Scotland, it is not always clear that a differentiation is being maintained between when Brown and Shepherd surveys were being referred to or raptor breeding surveys. Both having been carried at this site.

5.262 Given the limited site specific knowledge that Dr McCluskie has in relation to the site, it is the applicant’s position that there is no question but that Dr Zisman’s evidence should be preferred on all site specific issues. The only basis for taking a different position would be that if it had been demonstrated through the use of sound scientific evidence that there was truly “fundamental failings” in the VP surveys, breeding raptor surveys and Brown and Shepherd breeding bird surveys, supported by something other than argumentation from selective quotes from generic papers. Such generic evidence having been given greater weight by RSPB Scotland than site specific data, gathered by independent professional ornithologists who have an enormous breadth of first-hand experience and knowledge from direct involvement on both Strathy North and Strathy South over many years. Moreover, Dr McCluskie’s position depends upon his opinion that survey methodologies that accord with SNH guidance do not provide a sound basis upon which to carry out survey work for hen harrier.

5.263 The differences between RSPB Scotland and SNH, on this type of issue of conflict between the two, were addressed with Dr McCluskie in cross-examination. When asked about the reasons for the differences in opinion between SNH and RSPB, Dr McCluskie confirmed that RSPB Scotland takes a more precautionary approach than SNH to wind

farm development whether onshore or offshore. This was confirmed by the difference in stance as between SNH and RSPB Scotland as to the approach that should be taken toward SNH's intended increase in the avoidance rate for red-throated diver. Consequently, in our submission Dr McCluskie's criticisms of survey work carried out in accordance with SNH guidance have to be considered in this context, as does the decision not to take up Inquiry time with further questioning on what is essentially a dispute between RSPB and SNH as to appropriate survey methodology. An inquiry into a particular proposal, is not the forum in which to resolve RSPB's generic issues with SNH, as to whether or not their survey methods are sufficiently precautionary. This was emphasised through Dr McCluskie's agreement that the question as to where to get the balance as to what constitutes a sufficiently precautionary approach in this area of assessment, is essentially political. Hence this statement by Dr McCluskie was helpful to the applicant as it served to demonstrate the extent to which RSPB is at odds with SNH on issues of methodology, and, explains that in part, the reason for the different stance being taken by those two nature conservation bodies at this inquiry is attributable to a difference in philosophy as regards the correct approach to nature conservation.

5.264 Separately, the RSPB Scotland closing submission (at paragraphs 4.71 and 4.72) refers to the definition of replacement clutches in the methods section (p. 1085) of Etheridge et al 1997²²¹, which is cited in SSE_11_57 as one of the supporting scientific papers. That work identified replacement clutches based on proximity to the first nesting attempt. The RSPB Scotland submission omits reference to the full definition of replacement clutches in Etheridge et al 1997, which was as follows: "Clutches were identified as replacements of an earlier breeding failure by their proximity to the first nesting attempt or, less frequently, by observations of wing tagged birds (see Results)". The Results section of this paper states that: "on 15 occasions, a clutch was located within 1.4 km of an earlier nest that had failed at the egg stage (median distance between nests 0.48 km; least distance 0-03 km). It was considered likely that these were replacement clutches produced by the same female. Involvement of the same pair in both clutches was confirmed from the wing tags of one or both of the breeding birds in two cases."

5.265 Thus in two cases a replacement clutch was confirmed to be laid close to nest which failed earlier. In addition, the fact that Etheridge et al 1997 used distance as a criterion to identify replacement clutches indicates that the authors believed this was a valid assumption. Contrary to the argument made by RSPB Scotland in its closing statement, Etheridge et al 1997 is considered to support the statement made by Dr Zisman in his precognition that hen harriers which fail during laying can relay close (within 0.5 km) to a first breeding attempt. From paragraph 4.71 to 4.74, RSPB Scotland address the evidence of Dr Zisman, that because hen harrier are known to relay eggs after a failed breeding attempt, and, that based on the scientific literature this would either be within the site if relaying took place in relative close proximity to the first attempt, or, outwith the site (and therefore no longer at risk), in his opinion it was highly unlikely such breeding attempts within the site, and the generally surveyed 2 kilometre buffer, would have been missed.

5.266 In relation to deficiencies in the survey work RSPB Scotland describes Dr Zisman's evidence as a "proffered explanation to correct the fundamental failings in the VP survey is the assertion that harriers will re-lay close to the original nest site". Firstly, it was not argued that hen harriers will always relay within 0.5 kilometres of the original site after an earlier failure, but that relaying close to the original site in relation to this issue is a

²²¹ The effects of illegal killing and destruction of nests by humans on the population dynamics of the hen harrier *circus cyaneus* in Scotland. [SSE_11.91]

possibility (see last sentence of paragraph 3.10 of SSE_11.57). Secondly, Dr Zisman's evidence is unfairly described as a proffered explanation, it quite clearly having been based on a careful review of scientific literature of relevance to harrier behaviour when breeding (paragraphs 3.9 to 3.10). Thirdly, the simple fact that Dr Zisman made in evidence also remains in that should early breeding attempts fail and birds disperse, it follows that birds are not at risk from the proposed wind farm. Fourthly, his evidence as to what trained and highly experienced surveyors can be expected to observe during VP surveys is based on a considerable number of years involvement with survey work, designed to establish numbers of hen harriers in this area in and around the SPA, and to classify sightings in accordance with various breeding classifications.

5.267 RSPB Scotland implies in its closing submissions (paragraphs 4.75 to 4.77) that the consistency of nesting numbers at Strathy South indicates under-recording may have taken place. This line of argument is linked to the cyclical nature of prey abundance, in respect of which there is no issue as the applicant agrees that there is a five year cycle related to vole abundance. However, the submission from RSPB Scotland seems to suggest that the applicant's position was one of acceptance that a variation in harrier territories had not been recorded. This ignores the fact that under cross-examination, Dr McCluskie agreed that taken at the appropriate scale for this species, i.e. the Strathy valley, there has indeed been significant variation of various classifications of breeding attempts. This was under reference to Table 2.1 at page 6 of SSE_11.57, in which the presence of harrier in particular territories is summarised in relation to the Strathy valley and not just the development site. Dr McCluskie confirmed that a change in breeding pattern over a five year period could be seen. In its closing submissions, RSPB Scotland has again, therefore, been critical in order to portray uncertainty, when in fact no such criticism or resulting uncertainty is merited or supported by site specific, or survey information, of its own. It is based instead, on alternative interpretations of the site data which when interrogated, as Dr Zisman and Dr Riley have done in SSE_11.57, are found to be without substance and certainly do not render "redundant" Dr Zisman's reference to the relevance of this fact.

5.268 Despite SNH's forensic (and in the applicant's view, unwarranted) concerns on survey coverage for greenshank, at no point has SNH raised any concerns whatsoever regarding the applicant's survey coverage for hen harriers. Although Dr McCluskie came to concede that the applicant's survey work for hen harriers is not dependent solely on the standard Brown and Shepherd survey work, as in accordance with guidance the applicant had also carried out bespoke breeding raptor surveys, and understanding of the use of the site by hen harrier was further informed by flight activity data from VP surveys.

5.269 There is ample reason to conclude that RSPB's criticisms in relation to survey work and methodologies are not supported by sound scientific evidence. The criticisms are superficial and fail to provide an analysis that demonstrates that RSPB Scotland has the requisite site specific, and project specific (to use RSPB's heading from its own Topic Paper), knowledge to enable it to identify valid issues with the survey evidence, as opposed to assertion. Hence it is submitted that the applicant's evidence should be preferred. Dr Zisman and Dr Riley have examined the criticisms of RSPB Scotland in a scientific manner and presented that review in SSE_11.57.

Hen harrier - collision risk

5.270 Key points regarding collision risk are:

- Collision risk modelling, completed in full accordance with SNH guidance, has revealed a low predicted mortality for hen harriers from Strathy South. This takes into account all flight activity (including display flights) recorded in the at risk volume of the wind farm, plus a precautionary 200 metre buffer around all turbines.
- Display flights are relatively infrequent, and form only a small proportion of flights, both in terms of number of flights and duration of flight activity.
- From monitoring at operational wind farms, the firm balance of evidence is that hen harriers are not a species that is susceptible to collision, in comparison to other larger raptors, even when breeding within relative proximity to turbines.
- The occurrence of three instances of hen harriers being found at turbines at Griffin wind farm, in Perthshire, over two consecutive years, with injuries consistent with the possibility of collision with stationary infrastructure or being thrown to the ground by down draft from turbines was unprecedented on a global scale. If interaction with turbines is the cause, it may be the relatively low clearance between the bottom of the rotor swept area and the ground at Griffin has created unusual site-specific circumstances resulting in localised risk of such turbine interactions. None of the three harriers had injuries consistent with strikes from moving turbine blades. There is no information on the survey effort, survey coverage, surveyors used or harrier breeding distribution at the time of Griffin's baseline surveys.
- The clearance between the bottom of the rotor swept area and ground at Strathy is significantly (approximately 35%) greater than at Griffin, as discussed at the inquiry session during the cross-examination of Dr McCluskie. Taking into account the findings of the collision risk modelling, and the provisions contained in the Strathy South Outline Habitat Management Plan, the risk of hen harrier collisions is extremely low and will be diluted even further to reduce risk to a negligible level.

5.271 This sub-topic was considered in some length, including further written submissions on cumulative corrections, to which the RSPB Scotland also responded. Mindful of the great volume of published material on hen harrier ecology, flight activity, and growing information on harrier and wind farm interactions, so as to avoid repetition of evidence, Dr Zisman sensibly highlighted the value of SNH's commissioned report on the subject (see SSE_11.31²²²). As he explained, this is a comprehensive recent review by one of the leading authorities on hen harriers (Dr. Paul Haworth), the findings of which he considers objective and robust (hereinafter referred to as "the Haworth and Fielding Review" paragraphs 4.54 to 4.60). It is particularly useful because it encompasses the majority of the specific points raised by the RSPB Scotland.

5.272 In its closing submission (paragraphs 4.54 to 4.60) RSPB Scotland raises questions about displacement. As Dr Zisman highlighted, detailed consideration of the Pearce-Higgins et al. paper (SSE_11.48) was carried out in the Haworth and Fielding Review (as were also the Paul's Hill and O'Donoghue et al. research referred to by RSPB at 4.59). To summarise the findings of the Haworth and Fielding Review, which have been used to help inform the applicant's assessment of potential impacts on hen harriers, there is significant evidence from UK operational wind farms of localised displacement of flight activity around turbines. The implication is self-evident, that displacement at the range identified means that the risk of collisions with turbines is reduced.

²²² A review of the impacts of terrestrial wind farms on breeding and wintering hen harriers (2013). [SSE_11.31]

5.273 The principal argument advanced by RSPB Scotland, aside from its subsidiary argument related to mortalities at Griffin Wind Farm, is that hen harrier are particularly vulnerable to collision when engaged in display flights. RSPB Scotland is correct to state at paragraph 4.78 of closing submission that the characteristics of such flights are not disputed. The flights are highly distinctive, conspicuous, and a defining feature of this species.

5.274 Where the RSPB Scotland is misleading in both evidence and closing submission, is in relation to its use of widely accepted generic behavioural characteristics of hen harrier when in flight, for the purpose of then seeking to create the impression, on a repetitive basis in both Dr McCluskie's evidence and submission, that these 'risky' behaviours are not fully accounted for in standard collision risk modelling. This standard CRM utilises the Band model that has already been discussed in evidence, in respect of which it has been emphasised that the evidence as to the importance of empirical evidence from the site. It is also the model recommended for use by SNH in CRM but which Dr McCluskie criticises in his topic paper as an inappropriate methodology for displaying hen harrier, amongst other species.

5.275 Following very careful review of the notes of evidence and related documents, that RSPB Scotland has presented such a misleading explanation of its position regarding whether it does or does not call into question the validity of the Band model through the evidence of Dr McCluskie that it has seriously undermined the credibility of both the RSPB Scotland and its expert witness. In closing submission (paragraph 4.83), Dr Zisman is again questioned for apparently making an allegation without foundation, insofar as he states in his precognition that RSPB Scotland has questioned the validity of the industry-standard approach to CRM for hen harrier. It is accepted that this is what Dr Zisman states in his precognition, but it is not accepted that there is no foundation for that conclusion. In the closing submission (paragraph 4.83), RSPB Scotland provides a short summary of what is believed could be taken from cross-examination of Dr Zisman, in support of the submission that RSPB does not make criticisms that call into question the validity of the Band model.

5.276 In reply, this is not a fair account of the totality of Dr Zisman's evidence in relation to this line of cross-examination. Firstly, Dr Zisman accepted that a particular statement made in Dr McCluskie's precognition may not amount to questioning the validity of the model, but he qualified that answer by specifically making the point that his assessment that RSPB is challenging the validity of the Band model is based not just what is stated in the Topic Paper, but also through reference to the scientific papers that are cited by Dr McCluskie and therefore allied to his criticisms. He gave examples such as RSPB documents F19²²³ and D6²²⁴. In re-examination he was taken to paragraph 84 of the Topic Paper and asked to characterise Dr McCluskie's discussion of the Band model in that paragraph. He replied that he would characterise what Dr McCluskie stated in that paragraph as further criticism of the Band model.

5.277 The same issue was explored with Dr McCluskie in cross-examination. It was put to him that RSPB's criticisms of the Band model in its evidence, necessarily involve questioning its validity for CRM in relation to hen harrier. Initially, Dr McCluskie contended

²²³ Dicing with Death? An evaluation of Hen Harrier (*Circus cyaneus*) flights and associated collision risk with wind turbines, using a new methodology. [RSPB F19]

²²⁴ novel methodology for estimating height of birds in relation to the presence of wind turbines. [RSPB D6]

that he wasn't questioning the validity of using the Band model but when taken to different parts of the Topic Paper in which he questions the built in assumptions as to direction of flight (horizontal through the rotor swept area), use of one flight speed, and, the assumption that the amount of flight activity is directed related to collision mortality (Paragraphs 9 -11, paragraph 14 and 15, and paragraph 84 of the topic paper), he accepted that these passages could be taken as questioning the validity of the model and its use for calculating estimated mortality rates for hen harrier. While he did reiterate that RSPB Scotland consider it a valuable tool but that it has limitations, it was submitted, the attempt by RSPB Scotland and Dr McCluskie to downplay the obvious challenge as to the appropriateness of using this model, and the related challenge to SNH's acceptance that it is standard industry-wide practice to make use of a generic flight speed as supported by SNH's own current guidance (RSPB D10, published October 2014²²⁵), reflects poorly on RSPB Scotland and its witness.

5.278 It was submitted, after giving careful consideration of the evidence and closing submission for RSPB Scotland, that there is an inherent sophistry in RSPB's position of actually challenging the validity of the model, while pretending not to be so doing. This is best exposed by examining the legal proposition and reasoning advanced by RSPB Scotland. Having insisted that RSPB's evidence did not amount to a questioning of the validity of the industry-standard approach to CRM, it is suggested that any attempt by the applicant to rely on the fact that the CRM for hen harrier was carried out entirely in accordance with SNH guidance and using the Band model as the industry-standard modelling tool, would not be good enough for the purposes of satisfying the legal test in Article 6(3) of the WBD; (which RSPB Scotland refers to as the requirements of the Habitats Regulation in respect of appropriate assessment). RSPB Scotland's closing submission, and separate legal submission, are criticised as providing no assistance as to how the relevant legal principles and judicial dicta should be applied to the facts of this case.

5.279 It was now further submitted that the flawed legal reasoning can be clearly understood when consideration is given to the content of paragraph 4.86 of RSPB's closing submission. The specific criticism made against the applicant and its experts is that they have "not presented any assessment of the collision risk to harriers when performing display flights". It is apparent from that paragraph that RSPB Scotland believes that this aspect of its objection must necessarily succeed if the collision risk modelling carried out by the applicant does not specifically take account of the criticisms made by RSPB Scotland of the Band model in relation to displaying hen harrier. Only then could the Ministers as competent authority be satisfied that the assessment had been properly carried out for the purposes of Article 6(3).

5.280 This approach is based in part on RSPB's misunderstanding of the significance of what it describes as the reversal of the onus of proof, under reference to the Waddenzee case. This was particularly emphasised in legal submissions, and RSPB Scotland made reference to the nature of the onus of proof at different times during the inquiry session, when discussing the need for certainty. In that regard, RSPB's representative stated on more than one occasion that it was for the applicant to present evidence that removed the uncertainty that RSPB Scotland claimed existed in relation to aspects of the EIA assessment work provided to inform the appropriate assessment. RSPB Scotland mistakenly believes that if there is an absence of evidence addressing a particular concern raised by an objector, then necessarily the requisite certainty cannot be established to

²²⁵ Flight Speeds and Biometrics for Collision Risk Modelling, SNH Guidance Note [RSPB D10]

entitle the competent authority to set aside that ground of objection. If that was correct then Advocate General Kokott was wrong in her opinion to the European Court of Justice in the Waddenzee case, that the requirement for certainty does not necessarily exclude all remaining scientific uncertainty and that there may be permissible doubts that do not prevent the authorisation of projects. The applicant has already made extensive reference to this passage of the Advocate General's Opinion.

5.281 Various propositions were put to Dr Mudge in his cross-examination, under reference to pages 19 and 20 of the Advocate General's Opinion, with which he agreed. It may be that it was Dr Mudge's agreement as to how the requirement for certainty can be applied in practice, and his acceptance of the possibility of authorisation of a project even where some scientific uncertainty remains, that caused RSPB Scotland such anxiety; thus prompting the request for an opportunity to lodge a legal submission. It was emphasised in the cross-examination of Dr Mudge and in legal submissions, that it is acknowledged and accepted by not only the European Courts but also the UK courts, that when carrying out an appropriate assessment in many areas there may be considerable scientific uncertainty as to cause and effect. However, the decision-maker has to take account of comprehensive scientific assessment carried out having regard to the use of best scientific means for that assessment and the evaluation of the level of acceptable risk that remains after assessment. If that is done then the decision-maker has acted in accordance with the law. What level of risk is acceptable is essentially a question for the decision-maker.

5.282 In cross-examination, Dr McCluskie accepted in relation to EIA projects that involve appropriate assessment, where to strike that balance of acceptable risk is a political decision. It is the decision of the Scottish Ministers, who take that decision based upon their own evaluation of risk, and in respect of which they are accountable to their electorate for their decisions in respect of major infrastructure projects. In making that submission, it is accepted that in relation to an appropriate assessment, the decision needs to be informed by comprehensive scientific assessment of the impacts of the project and identification of the remaining scientific uncertainty. The guidance from SNH on CRM (including guidance as to the correct flight speed to use) has been shown to involve scientific assessment on the basis of reputable published scientific literature, evaluating the known uncertainties inherent in particular aspects of collision risk modelling. The advice to use the Band model, and in relation to the use of an estimated mean flight speed from recommended published data sources (Alerstam et al) is based upon an assessment of whether or not the inherent limitations do or do not give rise to an unacceptable level of risk. This has come out at the inquiry, from the debate in evidence between the experts as to whether or not particular limitations of the Band model results in an unacceptable level of uncertainty.

5.283 On that analysis, the issue to be addressed in respect of RSPB's objection that the applicant's CRM is unreliable because it under-estimates collision mortalities, must be the extent to which the SNH guidance that is relied upon by the applicant, and which undoubtedly lies behind the decision by SNH not to object on the ground of unacceptable collision risk to hen harrier, has been formulated having regard to the known limitations. Those limitations being associated with the known variations in species behaviour, flight activity, flight speed, etc. It was submitted that the issue for Scottish Ministers to address when considering what weight to attach to the SNH guidance and approved methodologies for CRM are:

- Has the guidance been formulated in the knowledge of those limitations?

- Have the implications been subject to appropriate and proportionate scientific evaluation?
- Has that scientific evaluation caused SNH to conclude that its continued use for raptor species, or indeed any other species that engage in display flight such as greenshank, poses an unacceptable risk in relation to the legal obligation to protect these species?

5.284 If those questions are answered in the affirmative [sic] then in those circumstances it is sufficient that the applicant has complied with SNH guidance and carried out the assessment in accordance with accepted SNH methodologies. In those circumstances, the Ministers would be entitled to place considerable weight on the fact that the applicant's CRM has been carried out in accordance with SNH guidance and SNH has confirmed through its advice that it does not have any residual concern in relation to collision risk to hen harriers. The applicant does not adopt the simplistic approach suggested by RSPB Scotland in paragraph 4.85 of its submission, that it is enough to rely upon SNH guidance and SNH's position of non-objection simpliciter. It will be appreciated that much more careful consideration has gone into the basis upon which it is submitted that there is no legal hurdle to authorising this project, simply because RSPB's criticisms of the Band model are not expressly catered for in the modelling work carried out by the applicant. For that to be done, it is self-evident that for that to be achieved something different to the industry-standard Band model would have to have been used. Consequently, it is difficult to characterize RSPB's evidence to this inquiry as being anything other than a challenge to the validity of the Band model.

5.285 In examining the legal proposition advanced by RSPB Scotland in paragraph 4.86, in addition to analysing it from the perspective of the applicant's own understanding of the Waddenzee case, as informed by discussion of it by the higher appellate courts in Great Britain, the applicant has also considered the practical implications for the evaluation of the evidence if RSPB's legal submission, in paragraph 4.86, is to be accepted as correct. Having regard to the particular scientific uncertainty that RSPB Scotland alleges exists in the applicant's evidence in relation to the CRM, RSPB Scotland suggests that as a matter of fact the use of the Band model has been the direct cause of the applicant producing unreliable estimates of collision mortalities in relation to displaying hen harrier. In order to reach such a conclusion one would necessarily have to find that contrary to industry-wide practise for many years, and contrary to the advice of SNH, the Band model is not "fit for purpose". This is despite the fact RSPB Scotland has not raised objection to its use for the same purpose, when assessing impacts of other proposed wind farms - a point made by Dr Zisman in his evidence during the inquiry session on hen harrier. There is no other logical path to the conclusion sought after by RSPB Scotland, that the hen harrier collision mortality estimates are not reliable.

5.286 Such logic that must lie behind the assertion that there is not any assessment of hen harrier performing display flights by the applicant, necessarily involves setting aside the evidence from Dr Zisman that measuring display flight activity within the collision risk volume takes account of this activity over the development site. This correlation has been accepted for years, although Dr McCluskie tried to question the validity of that accepted correlation, by reference to two studies conducted in Spain (first cited at paragraph 10 of his topic paper to which he was taken in cross-examination and relied upon throughout his report as the source literature for his assertion that the correlation between measured flight activity and collision risk is open to doubt).

5.287 Separately, Scottish Ministers would also have to be prepared to set aside SNH guidance that supports Dr Zisman's opinion that the Band model adequately takes account of the increased risk to displaying birds, by ensuring that flight activity is covered through VP survey. This was not a general principle that Dr Grant had any difficulty with, in the context of CRM for greenshank. Indeed, in his evidence-in-chief in response to the invitation to set out his concerns with the MacArthur Green report, he stated that flight activity was the key input. In addition, Scottish Ministers would also have to set aside recent guidance from SNH (RSPB D10) that advises developers that it is appropriate to use an estimated mean flight speed as the single datum for CRM, and Alerstam et al (2007) (SSE_11.4) as the published data source to select the correct speed to use in the CRM.

5.288 In this case, that could only be done by concluding that a different approach should have been taken to the modelling work, than that adopted by the Applicant in accordance with industry-wide standard modelling practice and SNH guidance. This analysis also leads to the conclusion that RSPB Scotland is being less than candid in claiming that its case on this issue does not amount to a challenge to SNH's position that the Band model should be used for the purpose of modelling hen harrier collision risk. Moreover that challenge is based on clear assertion that it is not fit for that purpose. It is to be noted that RSPB Scotland does not present any other peer-reviewed alternative model that does not have the limitations discussed in relation to the Band model. It is also highlighted that the inquiry is not being held for the purpose of establishing whether or not two speeds should have been used in the model, and, if so, what those speeds should be for display flight. It would be wholly inappropriate for an inquiry into a specific project to effectively carry out a review of SNH's guidance (D10).

5.289 The applicant suggests that the SNH guidance that has been referred to, primarily by the applicant, demonstrates that the criticisms of RSPB Scotland of the Band model are known to SNH and have been considered when formulating advice as to the use of the Band model. Secondly, that the debate between the experts as reflected in their inquiry reports and discussed in evidence, has involved consideration of a wide range of scientific literature. Reference to some of this literature is to be found in SNH guidance. A clear example of this is in relation to the question of flight speed, in respect of which the two papers that Dr Zisman and Dr McCluskie focus on in their inquiry reports, Alerstam et al (SSE_11.4) and Bruderer and Boldt, (SSE_11.13²²⁶) are considered in the guidance issued by SNH in October 2014 to which considerable reference was made in the cross-examination of Dr McCluskie (RSPB – D10). Thirdly, it can be taken from the evidence before the inquiry when witnesses were being questioned under reference to SNH Guidance on CRM, that SNH keeps its guidance under review and has had no reason to depart from its recommendation regarding the use of the Band model for CRM for wind farm development.

5.290 It is not accepted that this flight activity is not accurately recorded, and, as the applicant has made clear, all flights, including display flights, are recorded (SSE 11.57). In accordance with SNH collision-risk modelling guidance, where this flight activity falls within the 'at risk' volume (including at least an extra 200 metre buffer around the outer turbines) the flight data are used in the collision risk calculations (see CD 4.5 Technical Appendix A11.1). While it is accepted that Dr McCluskie is an acknowledged expert in CRM, it has to be recognised that both he and RSPB Scotland challenge the use of the Band model in relation to issues that are well understood by experts that are involved in CRM, and which

²²⁶ Flight characteristics of Birds. [SSE_11.13]

are recognised by SNH. RSPB Scotland does not criticise any specific aspect of the CRM, other than questioning the reliability of site specific input data obtained from the site survey work and questioning the use of only one flight speed for foraging.

5.291 While the core issues in evidence before the inquiry on CRM came to be about the dispute over the appropriate flight speed to use for display flights, the implications of different flight speeds for display flights, and, how this affects the output of the collision risk model, this did not need to be the subject of detailed analysis in evidence. It will not be the subject of detailed discussion here. Considering the applicant's entitlement to found on compliance with relevant SNH guidance, and SNH's advice to Ministers that there is not an unacceptable collision risk to harrier, it is unnecessary to make such detailed submissions. This inquiry is not the forum for adjudication upon a debate currently taking place in the scientific world. Not least because it has been considered by SNH and SNH has opined, on the basis of its own review of the scientific literature that the estimated mean flight speed is recommended as the single datum for collision risk modelling (D10, page 3).

5.292 The only factual issue of potential materiality is whether the input actually used by RPS in its modelling, in respect of flight speed for hen harrier, accorded with the recommendations to be found in D10. In relation to the question of what is the appropriate speed to use in the model, RSPB Scotland attempts to make something of the fact that during cross-examination there was a brief adjournment so that the applicant's team could check the exact flight speed used. It is suggested that Dr McCluskie's evidence is to be preferred on this issue, primarily on the basis that Dr Zisman was unable to confirm the speed without having it checked and that Dr Zisman's knowledge "was laid bare". This is not a sound, or fair, basis for preferring the evidence of Dr McCluskie's evidence over the evidence of Dr Zisman on this issue. The question to be resolved is the same for both witnesses; to what extent does the evidence that they give in relation to flight speed accord with SNH guidance? Dr Zisman was entirely candid in identifying that it was his technical team, and not himself, that carried out the collision risk calculations. There is nothing unusual in that situation when a firm of consultants carry out the assessment work, as opposed to one individual. Given the scale of the project and the scale of the assessment work involved, it is self-evident that there will be a great number of people involved in carrying out the assessment. In the applicant's experience, from conducting public inquiries into such large scale renewable energy and other infrastructure projects, it is common practice for the senior consultant who is responsible to the client for the carrying out of the EIA work, takes on the responsibility of giving evidence even if that consultant cannot claim to have personally carried out every bit of the supporting technical work.

5.293 Dr Zisman's evidence in response to the question was in fact that he believed that the flight speed accorded with SNH guidance. It transpired that he was correct in this understanding, when it was confirmed by those involved in the detail of the CRM that standard literature had been used to inform the modelling (see CD 4.5 Technical Appendix A11.1, pages 86 to 90, footnote reference on page 89). As discussed above, given the potential for greatly differing values being used in these calculations, SNH has highlighted published sources for such values and these were used for the collision risk modelling. One of the two key sources recommended by SNH is Alestram et al (2007), which Dr Zisman confirmed was the source used in the CRM. The value used by the applicant was appropriate, as acknowledged by Dr McCluskie, and within the central range of published values that are adopted as standard practice. Further, as Dr McCluskie agreed during cross-examination, and as RSPB Scotland concede in closing submission: "there is little effect upon collision probability when 8.3 m/s, 9.1 m/s or 11 m/s are used".

5.294 That is an end of the matter as the applicant has demonstrated that the variable input that has been used for flight speed of hen harrier CRM, has been selected in accordance with SNH's recommendations in its guidance. In contrast, Dr McCluskie attempts in his evidence "to plough his own furrow" and suggest that it was necessary for me to determine (a) that a flight speed had to be used for display flights if the CRM is to be accepted as reliable, and (b) what that flight speed should be. For the reasons given the approach taken by the applicant to selecting flight speed should be preferred and Scottish Ministers should avoid being led down the dangerous path of seeking to adjudicate on what the correct speed for display flights by hen harrier should be in collision risk modelling work.

5.295 The remaining issues that require to be addressed from the RSPB Scotland topic paper in relation to collision risk modelling are: (i) the use that Dr McCluskie attempts to make of two Spanish studies in support of his contention that the validity of the assumption that flight activity measured through site survey will be directly related to collision mortality; and (ii) the use that Dr McCluskie attempts to make of the hen harrier carcasses found at Griffin Wind Farm. While it is the position of the applicant that this evidence is not reliable scientific evidence upon which to reach a conclusion that there is clear evidence that CRM is significantly underestimating the risk of collision to hen harrier, these issues are discussed in conclusion to this part of the submission on collision risk because it is submitted that these chapters of evidence also do nothing to enhance the credibility of RSPB's case, or indeed the reliability or credibility of Dr McCluskie's evidence. Another chapter of Dr McCluskie's evidence, given when lead by RSPB's representative, is the reliance that he places on the activities of "Bowland Betty", the bird from the north of England in trying to find a mate.

5.296 It is emphasised that when calling into question the scientific credibility of the evidence that RSPB Scotland has presented in support of its case, the credibility of Dr McCluskie as a respected and published scientist is not being called into question. Out of fairness to Dr McCluskie it is acknowledged that he has been given something of a poisoned chalice by RSPB Scotland in that he is being asked to defend RSPB's position in relation to species in respect of which he does not have anything like the same level of expert knowledge that he has in relation to hen harrier, or the applicant's experts. In addition, he has not been furnished with any first-hand research by RSPB Scotland in relation to site specific conditions to support the allegations related to the site survey work, which is a limitation compounded by his very limited knowledge of the site. It will be submitted that his evidence in the paper is superficial and he draws on the examples of fatalities at Griffin, large numbers of fatalities of a different raptor species in Spain, and the activities of "Bowland Betty", to shore up a case that is lacking in substance and which does not support the grounds of objection relied upon by RSPB Scotland.

5.297 The contention that pre-construction surveys to establish flight activity, do not necessarily give an accurate representation of subsequent collision mortality, is based on studies that Dr McCluskie claims have examined other variables that might lead to collision, in addition to flight activity in the collision risk area. From that evidence he draws the conclusion that reliance cannot be placed on the assumed correlation between measured flight activity and predicted collision rates. He contends the previous acceptance of this assumed correlation must be questioned. In his topic paper, he makes extensive reference to the two Spanish studies that he first cites in paragraph 10 of his topic paper. These are

D4²²⁷ and D5²²⁸, both are papers published in the Journal of Applied Ecology in 2008 and 2012, respectively. In his topic paper he does not discuss the applicability and relevance of the findings of those studies to the flight behaviour of hen harrier at Strathy South, or, the site-specific environmental conditions.

5.298 He accepted in cross-examination that the studies related to a quite different species, griffon vultures that have species-specific flight characteristics, but in response he suggested that they were sufficiently similar due to what he referred to as the general characteristics of soaring. When it was suggested that the particular characteristics that makes this species vulnerable to collision was that they fly and soar in large groups because they roost in large groups, he suggested that harriers did too. That response questions the reliability of Dr McCluskie's evidence, as there is no evidence that large groups of soaring hen harriers will occur on Strathy South. In fact the evidence of RSPB Scotland in relation to population effect, is that there are so few hen harriers in the SPA that any losses could give rise to a population effect. It also does not fit with RPS's summary of hen harrier territories across the Strathy valley (Table 2.1 at page 6 of SSE_11.57), with which he took no issue when referred to it earlier in his cross-examination. This evidence completely contradicts his attempt to defend his use of the Spanish studies, by suggesting that large groups of soaring hen harriers is a site-specific issue at Strathy South. It was also put to him that the areas where there were found to be unexpectedly high levels of mortality post-construction, were geographically very different to Strathy South. They were located in the south of Spain and the topography was very different. He attempted to deflect this question by suggesting this indicated that more attention should be paid to topography, compared to habitat. Without the proper information before the inquiry that allows for a comparison between the variables that Dr McCluskie claims are just as important as flight activity in the collision risk area, it is not possible to draw any conclusions as to whether or not the findings in those studies have any relevance to Strathy South.

5.299 The same broad point is made in relation to the attempt by Dr McCluskie to rely upon the fatalities at Griffin Wind Farm, and the Haworth and Fielding Review in which the significance of these unexplained fatalities were considered. The relevance of this scientific study depends upon satisfying Scottish Ministers, that the site specific conditions and design of the wind farm at Griffin, when compared to what is proposed at Strathy South, are of sufficient similarity to justify simply treating the discussion in the Haworth and Fielding Review as to possible causes of death, as being of equal applicability to Strathy South.

5.300 In order to assist in a greater understanding of the avoidance behaviour of hen harrier, the applicant has funded post-construction work at Griffin work to evaluate the avoidance behaviour of harrier in relation to turbines. Dr Zisman sought to draw attention to its findings (RSPB D6²²⁹) in his responses to questions in cross-examination. Together with reference to evidence from the Haworth and Fielding Review (SSE_11.31²³⁰) and Pearce-Higgins et al. (referred to in paragraph 4.54 of RSPB's closing submission), Dr Zisman explained that there was the widespread evidence of avoidance around turbines. This evidence confirms the view of the applicant, its experts and SNH that the real risk of collision to hen harriers at operational sites is extremely low. This conclusion is in line with the balance of evidence reviewed by Dr Haworth and Dr Fielding (see SSE_11.31).

²²⁷ Collision fatality of raptors in wind farms does not depend on raptor abundance. [RSPB D4]

²²⁸ Weak relationship between risk assessment studies and recorded mortality in wind farms. [RSPB D5]

²²⁹ A novel methodology for estimating height of birds in relation to the presence of wind turbines. [RSPB D6]

²³⁰ A review of the impacts of terrestrial wind farms on breeding and wintering hen harriers. [SSE_11.31]

5.301 In addition, given the measures in the OHMP for sward management, which would be secured through conditions, for Strathy South the additional important fact is that display flight activity and the different speed of flight in display, is only relevant in any case if hen harriers are nesting (and therefore displaying) in close proximity to the turbines. Given the absence of breeding harriers on open moorland around the site (out to 2 kilometres) and the proposed sward management, the actual risk from display flights is reasonably predicted to be low. While RSPB Scotland simply refuses to accept that this mitigation will be effective as regards deterring harrier from nesting and establishing a territory in close proximity to turbines, it is to be noted that SNH has such a level of confidence as to the effectiveness of this mitigation that it has included this measure in its draft guidance on measures to minimise attractiveness of wind farm proposals on afforested sites. This was issued for consultation this spring, and was lodged by SNH at the inquiry²³¹.

5.302 Turning to RSPB's treatment of the harrier fatalities found at Griffin Wind Farm, all that needs to be said in this respect is that Dr Zisman's oral evidence was clear on this matter. Specifically that in his opinion, given the findings of the vet who carried out the post-mortem, the post-mortem analysis was balanced when she concluded that injuries "were consistent with the possibility of collision with a wind turbine, although other causes cannot be ruled out by any means... however the position at turbine bases is circumstantial evidence suggesting turbine collision responsible."

5.303 As previously submitted it is necessary to treat RSPB's closing submission with great care in relation to the account that is given of the witnesses' evidence. On this controversial issue as to the cause of death it is necessary to be reminded of what witnesses actually said, and also to take account of the actual balance of all evidence rather than be limited to what RSPB Scotland choose to highlight. A finding on this issue cannot be influenced by unsubstantiated conjecture. RSPB's assertion that Dr Zisman had been rather selective in his oral evidence is misleading, in relation to the passage from the Haworth and Fielding Review. This is unfair not least because Dr Zisman repeatedly referred to it and didn't question its content as providing a relevant, objective and robust consideration of key issues under consideration at the inquiry.

5.304 What RSPB Scotland chooses to ignore in submission is Dr Zisman's evidence as to the important differences between Strathy South and Griffin. Also he relies on the fact that there are highly unusual and unexplained characteristics of the mortalities found at Griffin. Namely, it is unprecedented at a global scale to find three hen harrier fatalities in two years and furthermore that none appear to have been struck by rotating blades, as injuries were not consistent with the traumatic injuries that result (SSE_11.31). It is also highly unusual and unexplained, why all three birds were found on or adjacent to hard standing, so close to turbines. RSPB Scotland chooses to ignore these entirely unique characteristics, and instead Dr McCluskie claimed in cross-examination that the birds could not have been planted there, because of a 'locked gate'. This certainly would not prevent access to an otherwise open wind farm, as Dr McCluskie attempted to suggest. Unlike Dr Zisman, who preferred to identify all of the different possible causes and then investigate if the evidence was any more consistent with one cause than another, Dr McCluskie's conclusion is absolutely definite and does not allow for the possibility of another cause even although the post trauma did not result in a finding as to the definite cause of death. Dr McCluskie's position may have been reasonable if there had been such a finding from post-mortem but there wasn't.

²³¹ Wind farm proposals on afforested sites – advice on measures to minimise attractiveness to hen harrier, merlin and short-eared owl. [SNH O-53]

5.305 In contrast, Dr Zisman re-iterated his view that the post-mortem summary findings were appropriate (and applied in general to each fatality), whilst highlighting potential possible alternative causes, given the prevalence of hen harrier persecution in Perthshire and Stirlingshire, drawing both on his own experience of persecution encountered as RSPB Conservation Officer, and on widely recorded persecution data (for example, SSE_11. 91²³² and SSE_11. 92²³³ and SSE_11.26²³⁴). It was not, in our submission, an unreasonable conclusion to draw. So far as he is concerned the jury is still out as to the cause of death of these hen harriers.

5.306 Before concluding on the question of the mysterious deaths of hen harrier at Griffin, two other aspects of RSPB's closing submissions also require comment. As Dr Fielding and Dr Haworth point out in their Review (SSE_11.3,1 Section 3.4, page 22), and as RSPB Scotland echoes in its closing submission, the original pre-construction surveys at Griffin did not appear to identify any significant risk for hen harriers. Whilst it is known from the evidence that there were historical records of hen harrier on site (RSPB F19²³⁵) there is not, unfortunately, the original baseline survey or EIA documents before the inquiry. As Dr Zisman explained, the consequence of that is that the survey quality, coverage and duration, and the proximity and breeding success of previous nesting from this period, to compare to circumstances in 2012 and 2013, is not available. Some caution therefore needs to be exercised, although had any obvious failings been readily apparent to these experienced authors, it does seem likely they would have been highlighted. There is not absolutely certainty, and the existence of historical records may not have been known to Dr Haworth and Dr Fielding. Of more significance to this report's findings is that Scottish Ministers are not able to draw any conclusions as to the similarity of the Griffin site to the site conditions that exist at Strathy South.

5.307 Related to the last point in the above paragraph is our second point that RSPB Scotland is incorrect to make the assertions in closing submission that the 8 metre difference in ground clearance is 'quite inconsequential' in relation to harriers (at paragraph 4.92) and that Strathy South and Griffin have 'obvious similarities' (paragraph 4.109). The 8 metre difference may well be the local factor noted in SSE_11.31, as it is certainly not "quite inconsequential" as Dr. McCluskie suggested (quoted at paragraph 4.92). This difference in ground clearance translates to 35% less ground clearance than would be at Strathy South. Given the propensity for harriers to spend significant time flying relatively close to the ground whilst hunting, this is a critical difference between the two sites.

5.308 Equally, the presence of cleared forest and breeding hen harriers does not necessarily make the two sites comparable given that aspect, slope, prey availability, topography, habitat type, vegetation structure, micro-topography, altitude, etc. are all key influences of hen harrier flight distribution and breeding activity (SSE_11.102²³⁶, SSE_11.103²³⁷, SSE 11.105²³⁸). As evidenced by the site descriptions in RSPB F19 (p. 15) and RSPB D6 (lines 170-176), Griffin is a mix of cleared conifer forest with brash (which

²³² The effects of illegal killing and destruction of nests by humans on population dynamics of the hen harrier *Circus cyaneus* in Scotland. [SSE_11.91]

²³³ The status of the hen harrier *Circus cyaneus* in the UK and Isle of Man in 2010. [SSE_11.92]

²³⁴ A conservation framework for hen harriers in the UK. [SSE_11.26]

²³⁵ Dicing with Death? An evaluation of Hen Harrier (*Circus cyaneus*) flights and associated collision risk with wind turbines, using a new methodology. (page 15). [RSPB F19]

²³⁶ Habitat selection and foraging success of hen harriers in west Scotland. [SSE_11.102]

²³⁷ Hen Harrier *Circus cyaneus* foraging activity in relation to habitat and prey. [SSE_11.103]

²³⁸ Nest site selection by hen harriers in Scotland. [SSE_11.105]

can attract harriers, as per Strathy Wood), conifer forest, and being a higher, steeper, and drier site, is occupied by dry heathland and grassland habitats that are significantly more attractive to hen harriers than blanket bog, as was highlighted by Dr Zisman in his oral evidence during cross-examination on the relevance of the Griffin wind farm fatalities. In contrast to RSPB's assertion therefore, the two sites' differences have much more significance than their similarities, in terms of their likely use by harriers.

5.309 Therefore, to draw all these strings together, the actual evidence is that the collision risk modelling completed for Strathy South is robust and appropriate, and can be relied on as the basis from which to assess possible impacts on population viability. Furthermore, whilst correct to ensure consideration has been given to the mortalities at Griffin Wind Farm, the point made in the Haworth and Fielding Review as to the unprecedented nature of these fatalities must also be considered. As Dr Zisman discussed, there does appear to be a potential local turbine ground clearance characteristic that may be a contributing factor, although it is not possible to confirm this for certain. Regardless, there are distinct and important differences between Strathy South and Griffin including ground clearance below the rotor swept area and habitat suitability, which gives confidence in the applicant's conclusion on future collision risk at Strathy South. In addition to which, as well as Strathy South being a wetter site that would become dominated by blanket bog (sub-optimal for hen harrier), there is the key additional mechanism to restrict suitable nesting habitat in proximity to turbines, through the Strathy South Habitat Management Plan, and imposed by an already agreed planning condition.

Hen harrier - habitat loss and disturbance

5.310 Key points in relation to habitat loss and disturbance of hen harrier are:

- The Strathy South Wind Farm would not have significant impact on hen harrier breeding or foraging habitats.
- In fact, where appropriate to do so, the comprehensive Habitat Management Plan, has the scope on site to improve foraging and nesting in areas distant from turbines, removing conifer forest of low ecological value and restoring peatland habitats. Off site, there is further scope to enhance habitats for hen harrier and its prey species.
- The Construction and Environmental Management Plan (CEMP) and associated Breeding Bird Protection Plan would be in place during construction, and overseen by the Ecological Clerk of Works (ECoW) to ensure there is no risk of disturbance to any nesting hen harriers. A similar combination of measures would be put in place during decommissioning. The procedures to prevent disturbance to breeding hen harriers (and other raptors) are tried and tested, the applicant having implemented these at numerous other renewable energy projects
- Site induction procedures and management of operational maintenance would help prevent disturbance to breeding hen harriers during the site's operational phase. Such procedures are already established at numerous other wind farms, including those where hen harriers breed in relative proximity.

5.311 Despite the fact that it took a day to complete the evidence of Dr Dargie and Dr Zisman at the inquiry session on habitat issues related to ornithological impacts, because of the length of cross-examination, there was little controversy. This perhaps reflects the broad agreement on the lack of any significant habitat impacts and the fact that issues

related to changes to habitat had been thoroughly explored through the evidence produced under the separate procedures that applied to peat impacts.

5.312 The two issues upon which the debate centred were the time it would take for a habitat to establish that would prove attractive to greenshank, and over what area, and, the possibility of creating in the north-west parts of the site, habitat that hen harrier would find attractive for nesting. The other issue that was controversial in relation to harrier habitat, and which had been debated at length at the peat hearing session, was in relation to sward management. As made clear in submissions on collision risk, the position of SNH as regards sward management is relied upon together with Dr Zisman's evidence that in his opinion this mitigation measure is achievable and effective.

5.313 In the context of the issue of greenshank colonisation, the fact that there would be progressive restoration to peatland was raised. In this section comment is given in relation to the evidence that was discussed in respect of habitat issues relevant to hen harrier. It will be recalled that Dr Dargie confirmed that his opinion as to the compatibility of sward management with blanket bog restoration had been endorsed by SNH in its consultation response of 28 May 2015, in relation to the FEI (2015), (FEI 1). He also confirmed that the issue of sward management was an issue primarily for the first 5 years of site restoration before blanket bog re-established. Dr Dargie and Dr Zisman also explained in their evidence during cross-examination by SNH, that if an area in the north-west corner of the site was used to create habitat for hen harrier while this would obviously prevent the re-establishment of blanket bog under the area of brash but, being a highly localised measure, it was not considered that it would have a significant impact on Dr Dargie's prediction that 80% of the site is only likely to achieve a cover of near blanket bog. Dr Dargie estimated that he thought perhaps 2% of that area might be affected.

5.314 Dr Zisman gave evidence in relation to the effectiveness of the proposed sward management and the option of providing alternative nesting sites. He explained that the reduction of the turbines to the 39 turbine layout gave rise to this enhancement opportunity to create habitat at the north western extremity of the development site (as distinct from the wind farm footprint). It was a location that would allow for compliance with SNH's requirement of achieving a 500 metre separation between turbines and harrier nesting sites. SNH did not question that suggestion. In response to my question as to whether there was a conflict with the proposed peat restoration attracting qualifying species into the site, Dr Zisman was very clear that the operative word in the question was that such habitat management proposals "may" attract qualifying species but that this conflict was capable of being addressed through measures such as sward management, for hen harrier, and, different profiling techniques as part of the restoration of the ground after forest removal to manage the formation of pool systems. In that regard, the discussion at the hearing session in relation to the discussion by SSE's witnesses as to developments in tree harvesting equipment that was capable of harvesting at ground level is of interest. This made the use of alternative ground re-profiling techniques possible.

5.315 Dr Zisman emphasised that based on his own experience, the development of a detailed habitat management plan is an iterative process and that there was considerable flexibility to allow for the management of apparent conflicts between different objectives. His specific experience working with SSE is that the applicant takes a flexible approach to the final design and was open to providing additional nature conservation enhancements if the opportunity arose. In answer to me, he confirmed that if the consultees considered desirable, the creation of hen harrier nesting opportunities by the retention of brash in

suitable locations on the periphery of the area under SSE's control, would be funded by SSE.

5.316 Despite the relative lack of controversy, typically with RSPB's closing submission it is necessary to provide a response to RSPB's submissions on this sub-topic primarily to provide clarification or correction, to avoid any confusion. To begin with, in response to the point made in 4.5 that seeks to suggest that RSPB's evidence on certain topics has not been challenged, reference is made to the discussion in other sections where it is explained why it is that Scottish Ministers should not treat those sections of Dr McCluskie's evidence as being accepted by the applicant. Specifically in relation to the information presented in the topic paper, Dr McCluskie was giving evidence as a professional ornithologist. RSPB Scotland did not mirror the approach of the applicant, of leading a suitably qualified expert to discuss detailed issues related to habitat restoration.

5.317 The main issue related to RSPB's contention that hen harrier would be attracted into the site following upon the clear felling of the forestry. The importance of this issue to RSPB Scotland was that it argued that if the number of male hen harrier increased then the numbers of territories would increase. On that basis RSPB Scotland sought to argue that collision mortality had been underestimated. That is the basis upon which Dr Zisman was cross-examined. While RSPB Scotland had argued at the peat hearing session that there were practical problems associated with sward management that could not be overcome, these have been fully addressed in evidence and submission. At the inquiry session the only additional piece of evidence contributed by Dr McCluskie was his comment in evidence-in-chief that it would be difficult to manage the vegetation growth across the site. He made particular reference to the difficulty in locating and managing habitat next to running water and on slopes.

5.318 This is just another aspect of habitat management. It was not put to Dr Zisman, who has the practical experience from implementation of habitat management plans, that this was not possible. Consequently, only limited weight can be attached to an opinion that should have been included in the topic paper or precognition if it was considered to be material. This is particularly so when the applicant's witness had not been asked for his opinion. In fact the position in the topic paper is that habitat management would not be effective to reduce the risk of collision from display flights; not that sward management cannot be effectively implemented. I asked Dr Zisman if he was aware if sward management had been used elsewhere and he confirmed that to his knowledge that it had first been instigated in South Lanarkshire and has since been utilised on a number of sites and is being utilised at Strathy North.

5.319 A document was then lodged by SNH, which contained independent advice that was supportive of Dr Zisman's opinion on this matter. SNH produced to the inquiry draft guidance that was issued by SNH as a consultation draft in March 2015, specifically advising on measures to minimise the attractiveness of afforested sites to hen harrier, merlin and short-eared owl (SNH O-53²³⁹). Relevant guidance on sward management for the purpose of reducing risk from display flights, is referred to above in the discussion on collision risk. In response to RSPB Scotland's reliance on Dr McCluskie's opinion, as to the practical difficulties in implementing sward management, greater weight should be given to the evidence of Dr Zisman as to the effectiveness of the measure, which is entirely consistent with SNH's assessment of its effectiveness in relation to clear-felled sites. His

²³⁹ Wind farm proposals on afforested sites – advice on measures to minimise attractiveness to hen harrier, merlin and short-eared owl. [SNH O-53]

evidence should also be given greater weight because of his practical experience in the implementation of habitat management plans. SNH's position of non-objection provided a condition is attached requiring sward management to dissuade the use of the clear-felled site also falls to be considered in relation to the weighing of evidence on this topic. Finally, weight should be given to the evidence from Dr Zisman in relation to the increasingly widespread use of this mitigation measure. In these circumstances, it was not necessary to cross-examine Dr McCluskie because of the considerable body of evidence before the Inquiry that contradicts his opinion that sward management might not be effective because of practical considerations.

5.320 Notwithstanding the ambiguity of SNH's position on displacement, the closing submissions from RSPB Scotland contain some comment in relation to a particular scientific study that has been produced to the inquiry on the subject of displacement. This is the only study referred to by Dr McCluskie in his topic paper in the paragraph in which he touches on the issue of disturbance and displacement of flight activity (paragraph 81), namely the Pearce-Higgins et al study²⁴⁰. It is difficult to comprehend why it is thought that the particular issue is considered of importance to RSPB's case, given its lack of materiality to RSPB's case, given its equivocal position in relation to this potential impact. The comments made against Dr Zisman in relation to an issue on which RSPB Scotland led no detailed evidence of its own are particularly unedifying. The criticisms are based on a misunderstanding of the point that Dr Zisman was seeking to convey as to the importance of grey literature, and that examination of a particular issue should not be restricted to published science, which is what Dr McCluskie does on this issue in paragraph 81 of this topic paper. His point is not, therefore, answered by a quote from the Pearce-Higgins study because the issue raised by Dr Zisman was not whether Pearce-Higgins paper was based on consideration of wind farm data but whether or not RSPB Scotland had considered such data as was available from operational wind farms.

5.321 The attempt by RSPB Scotland to summarise Dr Zisman's oral evidence in 4.60 is inaccurate and misleading, here, as it is elsewhere. The displacement of birds, as discussed above, is the result of avoidance of operational turbines by harriers, and not the result of habitat loss per se. The implications of displacement on hen harriers have been considered by Dr Zisman, drawing on the work of Dr Haworth and Dr Fielding (SSE_11.31. page 23). In connection with collision risk, it has already been explained why it is that Dr Zisman considers this work is so useful to the inquiry. Dr Zisman's original conclusion, that whilst there is some small scale displacement of hen harrier activity, it is too localised to have any significant population impacts. Consequently, it produces no significant population impacts. Scottish Ministers are respectfully invited to accept therefore, that notwithstanding RSPB Scotland's attack on Dr Zisman, the issue of displacement is essentially uncontroversial, and requires no further consideration.

5.322 Scottish Ministers are therefore invited to conclude that the second and fifth conservation objectives in the citation (SSE_11.122²⁴¹), which are of relevance to displacement and distribution, are met. Similarly it is clear from the evidence that the third and fourth conservation objectives are met.

Hen harrier - assessment against designations and appropriate assessment

5.323 The following key points are made:

²⁴⁰ Pearce-Higgins et al (2009) J Appl Ecology upland birds & windfarms. [RSPB D18]

²⁴¹ SNH (updated) Special Protection Area Citation. The Caithness and Sutherland Peatlands. [SSE_11.122]

- The interaction of hen harrier with wind farms has been the subject of study and the limitations as regards available data are known.
- It is predicted that there would be a minor loss of foraging habitat within the development site, in respect of which there is no reasonable scientific doubt.
- The disturbance/displacement of hen harrier from breeding sites is predicted to be minor, localised in nature and not resulting in loss of breeding birds associated with the SPA, in respect of which there is no reasonable scientific doubt.
- The opportunity exists to create additional nesting habitat at the north-western periphery of the site without significant impact on the habitat objective to restore the currently afforested site to peatland.
- The collision risk to hen harrier is assessed as being of minor significance, pre-mitigation, and any residual risk of collision from the clear-felling of the forestry plantation can be managed through the use of the well-established technique of sward management for the initial period (estimated to be years 1 to 5) prior to hydrological recovery and resulting evolution of blanket bog, at which time vegetation would not exceed 20 centimetres in height. There is no reasonable scientific doubt as regards this conclusion.
- The low predicted levels of mortality from collisions, the standard and well-established protocols in place to prevent disturbance during construction and operation, and, the provisions of the Habitat Management Plan, are all considerations that lead to the conclusion that there would be no adverse impact on this species from the proposed Strathy South wind farm. This is the case for the project alone and in combination. Consequently, the integrity of the SPA would not be adversely affected by the proposed wind farm.

5.324 In the preceding sections it has been presented that there is no reasonable scientific doubt as to the conclusions that can be drawn from the evidence related to the assessment of pre-mitigation impacts on hen harrier. In the key points above, the conclusions to be drawn from the assessment reported on in the confidential annex of the ES addendum (2013) (CD_4.5, Table 11.8 in Chapter A11, taken from Technical Appendix A11.4, Tables A11.4.5 (page 42) and A11.8 (pages 54 to 57) are summarised in relation to each of the predicted impacts of relevance to the hen harrier assessment. It is concluded in the assessment that none of the conservation objectives will be undermined, with a high degree of certainty in those conclusions (see final column of Table A11.8). It will therefore be noted that in respect of each of the conservation objectives, it is the position of the applicant that there is no reasonable scientific doubt as to the conclusions reached following careful assessment.

5.325 The level of certainty that the applicant has in this assessment work is shared by SNH. It will be noted from the correspondence produced in Appendix 4 of Technical Appendix 5.2 of CD_5.2, that following publication of the ES addendum in 2013, SNH raised a number of issues (page 9 of the Appendix) in its first consultation response of 20 November 2013. These issues have been adopted by RSPB Scotland and are reflected in its topic paper. Those outstanding concerns on the part of SNH were the subject of detailed responses from Dr Zisman on 23 December 2013, providing the clarification sought and providing a worked example of the CRM method for hen harrier. This then resulted in the letter of 6 February 2014 from SNH confirming that on the basis of that additional information that SNH was withdrawing its objection. SNH's position of non-objection was maintained in its consultation response to the FIR (2014), in terms of which SNH confirmed that it did not expect a collision risk of 1 bird every 9.09 years, (0.11 per annum at 99%

avoidance rate) to have a detectable impact on the size of the SPA population and therefore concluded non adverse effect on the integrity of the SPA. It is emphasised that this consultation response related to the ES addendum layout that was for 47 turbines. The revised estimate of mortalities is 1 bird every 11 years, based on the reduced number of turbines to 39 (Table 2.2 of SSE_11.57²⁴²).

5.326 Finally, in its consultation response of 28 May 2015, following advertisement of the RPS inquiry reports as further environmental information, SNH confirmed that provided a condition was imposed for targeted sward management to further reduce collision risk it would not object to the proposal on the ground of impact on hen harrier. In Annex 6 of the letter, SNH makes reference to its guidance on what it describes as “established techniques for avoidance of collision impacts on hen harriers at wind farms where forest clearance forms part of the development proposed” (paragraph 5). This guidance has already been referred to and is inquiry document SNH O-53. In that section of the letter SNH explains in some detail the basis upon which it is satisfied that adoption of this technique will dissuade hen harrier from being attracted into the site to establish nests in close proximity to turbines. On that basis SNH concludes that the collision risk to hen harrier will not increase as a consequence of the habitat change brought about by clear felling the forestry plantation.

5.327 RSPB Scotland refuses to accept that the applicant has demonstrated that the proposed development will not cause an unacceptable level of impact as a result of collision mortalities. Further, it contends more by way of implication rather than positive evidence that collision mortalities caused by the proposed wind farm at Strathy South would have an unacceptable population effect. Its position in relation to disturbance and displacement is even more equivocal, as discussed above under reference to RSPB’s Topic Paper. Equally, RSPB’s position as to the nature of population effect that would have to occur, in order to undermine the conservation objective to maintain the hen harrier population as a viable component of the SPA, is even more obscure. Before considering in greater detail the two issues in respect of which it is submitted that RSPB’s position is properly to be characterised as equivocal, it is worthwhile addressing just what RSPB’s case is in relation to displacement and population effect. In particular what evidence there is from RSPB Scotland to substantiate the assertions in closing submission that it cannot be demonstrated on the available evidence that the population viability of the hen harrier qualifying interest will not be adversely affected by displacement effects, or collision mortality.

5.328 Firstly, it was submitted that the case for RSPB Scotland has to be assessed on the basis of the content of the topic paper as that is the only evidence produced to the inquiry to support its grounds of objection. That evidence comprises the views of Dr McCluskie on those considerations identified by him in that topic paper on the matters raised by RSPB Scotland in evidence. If Dr McCluskie does not provide evidence in his written inquiry report, or in supporting documents, or in his oral evidence to the Inquiry, on matters that RSPB Scotland seek to rely upon in closing submission, Scottish Ministers are entitled to conclude that such assertions in closing submission are unsubstantiated. Hence, it is highly relevant to consideration of RSPB’s case, just how little site-specific evidence there is from RSPB Scotland.

5.329 Dr McCluskie cites and refers to a great number of published and unpublished reports to support his evidence, and these are listed in sections D to H of the document list

²⁴² RPS (2015e) Hen Harrier Interactions with Operational Wind Farms. [SSE_11.57]

for RSPB Scotland. Superficially it appears that RSPB Scotland has produced a great deal of evidence to support its case, based on volume alone. However, the only document that has been produced for the purposes of the inquiry, and which is of any direct relevance to Strathy South and the assessment of impacts resulting from the construction and operation of a wind farm on the development site, is the RSPB Scotland topic paper. The nature of the evidence contained in that Topic Paper is discussed above, and the point is made that even in the topic paper, much of it is made up of uncontroversial generic evidence under the heading of Species Account. It follows that much of the published and unpublished literature cited in support of the Species Account is uncontroversial.

5.330 The extent of controversy in relation to the vast body of scientific literature has largely been focussed through cross-examination and closing submission, which in itself emanated from Dr Zisman's discussion in his inquiry report SSE_11.57 of different reports and studies that caused him to question Dr McCluskie's reliance on particular reports. An example of this was in relation to Dr McCluskie's reliance on solely the Pearce-Higgins report, in paragraph 81 of the topic paper, and his description of it as the most comprehensive review of the evidence on displacement. The point was made by Dr Zisman, for which he was criticised by RSPB Scotland in cross-examination and closing submission, that RSPB's evidence to the inquiry does not take account of data and post-monitoring reports that have been produced for operational wind farms. This is to be contrasted with the evidence of the applicant's experts who were all in a position to draw on their experience that they have gained working with the renewables industry in the UK. It does not appear to be understood, from what is stated in RSPB's closing submission and continued reliance upon Pearce-Higgins research, that Dr Zisman relied upon the Haworth and Fielding Review because, based on his own experience, he agreed with the conclusions drawn as to the shortcomings of the Pearce-Higgins work, as stated at pages 5 to 7 of the Haworth and Fielding Review. This is simply ignored in the RSPB Scotland closing submissions in relation to the conclusions to be drawn for the purposes of considering if the conservation objectives are met.

5.331 RSPB's position has to be considered on the evidence of Dr McCluskie and in relation to the issue of displacement the extent of Dr McCluskie's own evidence is to be found in paragraph 81 of his Topic Paper. Insofar as he makes it clear that his evidence on displacement effects is based on Pearce-Higgins et al (D18), it is legitimate to consider the content of that report in assessing the reliability of his evidence. However, as discussed in the submissions on the topic of displacement, Dr McCluskie presents no evidence to contradict Dr Zisman's reasons for placing limited weight on the Pearce-Higgins report in favour of other more relevant evidence. The apparent conflict between: (a) Dr McCluskie's evidence, which is to the effect that RSPB's key concern is collision risk and which is the only site-specific and project specific issue that he discusses; and, (b) RSPB's closing submission, which seeks to rely upon a vaguely stated displacement effect citing Pearce-Higgins have been addressed. In this section the relevance of that conflict in respect of the assessment against the conservation objectives are assessed. It is the second conservation objective that is of relevance to displacement effects and although Dr McCluskie concludes in the topic paper that that particular objective will not be met, he does so on the basis that there is no direct effect on the distribution of the species within the site but that distribution may be indirectly affected if the SPA population declines as a result of collisions (paragraph 91).

5.332 The result of this is that RSPB's attempt to rely in closing submission on the displacement effects for the purpose of submitting that the applicant has failed to

demonstrate that there will be no adverse effect on the SPA, has no basis in evidence. It appears from the conclusion section of the closing submissions on hen harrier (page 36) and the overall conclusions in relation to the SPA (pages 38 and 39), that it is suggested there would be some level of displacement that will be of relevance to population effect. This is despite the fact that RSPB Scotland has no evidence upon which to question Dr Zisman's evidence as to the number of hen harrier pairs and nesting locations that have the potential to be impacted upon, or, to contradict the findings of the Haworth and Fielding Review that Dr Zisman relies on. Hence, whilst the closing submission gives the impression that RSPB Scotland still objects to the proposed wind farm on the basis that the displacement effects are greater than predicted in the ES addendum, that cannot be taken from Dr McCluskie's evidence.

5.333 While Dr McCluskie will not have seen the RPS response to RSPB's objection letter of 9 January 2015 when he prepared his Topic Paper, it being provided in SSE_11.57, it is a matter of some significance that despite having the opportunity to provide comment on all of the RPS inquiry reports by virtue of their advertisement as further environmental information, RSPB Scotland declined to do so. In that connection, reference is made to the consultation response from RSPB Scotland²⁴³, that contained copious comment on the OHMP (SSE_11.60) but said in terms that they did not consider it appropriate to comment on those reports. When Dr McCluskie gave evidence-in-chief he was not referred to any of the RPS inquiry reports for comment other than SSE_11.57, perhaps reflecting his particular interest and expert knowledge of hen harrier. In these circumstances Scottish Ministers are entitled to assume the content of the RPS inquiry reports is not disputed by Dr McCluskie, other than the specific issues raised with Dr McCluskie in this evidence-in-chief. Hence by the conclusion of the inquiry session RSPB Scotland had not provided any substantive response to any of the RPS inquiry reports, including SSE_11.57. RSPB Scotland also has not led evidence questioning the efficacy of the mitigation measures proposed to minimise the risk of disturbance during both construction and operation, which are specified in Table 11.8 in Chapter A11 of the Technical Appendix that might otherwise lead to displacement. RSPB Scotland has not presented any evidence that contradicts Dr Zisman's evidence in his inquiry report SSE_11.57 that there is good evidence to support the conclusion that displacement effects would be limited to the immediate vicinity of the turbines over a distance of 0-200/250 metres, other than the misplaced reliance on the Pearce-Higgins paper. RSPB Scotland has not led evidence to question the conclusion in his report that at such distances he could conclude from the survey work that there was the potential to impact on only one nesting location, which is in any event a historical record of nesting at that location.

5.334 The question of population effect is the other issue in respect of which it is impossible to ascertain just what RSPB's position is. While Dr Zisman was cross-examined on the appropriateness of using a Population Viability Assessment ("PVA") model that had been used for the Camster Wind Farm, the relevance of RSPB's line of argument to its case must be limited solely to the allegation that the use of the model "is unsafe" and must be treated as another uncertainty that prevents authorisation of the project. This line of argument should be considered in the context that nowhere in RSPB's evidence is there any indication as to the number of breeding birds or non-breeding birds that if killed or otherwise lost to the population would have an impact on the long term viability of the hen harrier SPA population. This is despite the fact that SNH has made clear that its assessment is that a collision rate of 1 bird every 9 years would not have a detectable

²⁴³ RSPB Scotland response to Further Environmental Information (2015).

impact on the size of the population (SNH R-5), which would lessen even more with the change in the estimated mortality of one bird every 11 years for the 39 turbine layout.

5.335 Dr McCluskie was very coy about expressing any opinion on the question of viability of the SPA population. He accepted that it was a species that was assessed as being in favourable conservation status. It is to be noted that his assessment against this conservation objective is not based upon the predicted collision rate giving rise to a population viability effect but depends upon his evidence as to the unreliability of the collision risk being accepted. The assertion by RSPB Scotland that the CRM for hen harrier cannot be relied upon should be rejected. In that eventuality, the sole basis upon which they have reached a negative conclusion in respect of the first conservation objective to maintain a viable population of hen harrier in the long term, falls away and that is an end of the issue so far as RSPB's evidence is concerned. RSPB Scotland does not anywhere in its evidence put forward the proposition that even on the applicant's estimates of collision risk for this proposed development alone or in combination with other developments, this could result in an unfavourable impact on the SPA population, such that the population of the species would not be maintained as a viable component of the site in the long term.

5.336 It is acknowledged, however, that the issue raised by RSPB as to the reliability of the PVA analysis carried out by RPS has to be addressed in order to consider if there is any merit in RSPB's argument that the criticisms that they make give rise to a reasonable scientific doubt as to whether the SPA population of hen harrier would be maintained in the long term as a viable component of the SPA.

5.337 The evidence supports the conclusion that the use of SNH's collision risk model has produced a highly robust predicted collision rate for Strathy South, from which to inform the appropriate assessment. It is in this context that one should consider RSPB's claims regarding the applicability of the Camster Population Viability Assessment (PVA), which is discussed at paragraphs 4.50 to 4.53 of RSPB's closing submissions. Reference is made to the work of the authors assembled by the JNCC to produce the UK's conservation framework for hen harrier, comprising highly experienced specialists on this species. This JNCC report is cited in the RPS inquiry report, SSE_11.57, at paragraph 3.33 to 3.35 in response to RSPB's questioning of the use of the Camster PVA in its objection letter. It will be noted that one of the authors is Dr Helen Riley, who as discussed was one of the co-authors of the RPS inquiry report. In that paper, the authors provide a clear and succinct justification of the use of a female-based PVA (SSE 11.26²⁴⁴), which helpfully explains: "It was decided to use a female-only model because, ultimately, a population's trajectory is a function of the number of females fledged. Other work has previously been undertaken using male-based models (Amar 2001); this is because some hen harrier populations, particularly on Orkney, are polygynous (males mate with more than one female). One consequence of polygyny is that some sub-ordinate females fail to reproduce or are less productive. Away from Orkney, polygyny does not appear to be very frequent, and occurs on a cyclical or other temporary basis; wider ranging data on this phenomenon are not available. However, irrespective of the behavioural ecological mechanism, it is female productivity which ultimately drives the population's trajectory and, because our models take account of the proportion of successful birds, the models will be robust".

5.338 The authors of this Framework include Dr Phil Whitfield, who also produced the PVA for Camster (SSE_11.86²⁴⁵ and SSE_11.110²⁴⁶). As Dr Zisman highlighted in cross-

²⁴⁴ A conservation framework for Hen Harriers in the UK (section 4.1, page 13). [SSE_11.26]

²⁴⁵ Assessment of effects of the proposed camster wind farm on hen harriers and merlins. [SSE_11.86]

examination, Dr Whitfield is one of the UK's leading ornithologists, and brings decades of experience on bird research and associated population modelling, much of it published in peer reviewed journals, as well as grey literature. He has also completed numerous studies under commission for SNH, for whom he worked for many years as Senior Ornithologist. It is also of some considerable importance that this work was commissioned by the JNCC and included modelling of population effects for the purpose of addressing favourable conservation status. In response to the explanation that the use of female-only methodology had support from authoritative research scientists, RSPB Scotland relies upon a brief comment in an article published in the Journal of Applied Ecology (see paragraph 78 of RSPB's submissions). It will be for Ministers to decide if this reference to a few lines in document F18²⁴⁷ could be described as a criticism, or a discussion of a modelling limitation.

5.339 When considering this apparent controversy, the debate in evidence on CRM is highlighted, in relation to both greenshank and hen harrier. From that it will be fully appreciated that it was a matter of agreement between RSPB Scotland and the applicant's experts that all models have limitations. What is apparent from the evidence of Dr Grant (when asked about the same issue in relation to greenshank) and Dr Zisman is that they do not consider that the existence of a known limitation invalidates the outputs from the model, provided it is understood what effect it has on the predictions. As demonstrated by the scientific paper relied upon by RSPB Scotland, the limitation identified in that article is that the abundance of one sex is not perhaps an indicator of the abundance of the other. The authors of the JNCC report in the passage referred to above, express the view that modelling for the purposes of predicting population trajectory can legitimately be carried out using a female-only model. That is the exercise being carried out for the PVA of hen harrier in the ES addendum, using the same model developed by Dr Whitfield. Dr Zisman explained that it was considered to be a good model because of the thoroughness of the pre-existing work on Camster and was considered relevant to project-specific issues to be addressed with Strathy South.

5.340 As Dr. Zisman acknowledged, the recent population trend data for hen harriers in north Scotland does show a significant decline, albeit that this is based on a sample survey and there are some questions over the completeness of survey coverage for the SPA and therefore the actual current SPA population. In that regard, RPS make the point in paragraph 3.36 of SSE_11.57 that the decline in the number of breeding pairs in the SPA, reported through the Scottish Raptor Monitoring Scheme, [REDACTED]

[REDACTED] This qualification is highlighted so that there is an awareness that there is a qualification to be made as to what the applicant believes was the evidence of Dr McCluskie on this point. The suggestion in paragraph 4.50 of RSPB's closing submission that Dr Zisman's acceptance that there appears to be a notable decline in the harrier population undermined his written evidence is incomprehensible when one has regards to paragraph 3.36 of his inquiry report SSE_11.57; which states that in terms. Dr Zisman confirmed in paragraph 3.37 that the studies used to derive demographic parameters represent the most up-to-date information available.

²⁴⁶ Assessment of effect of the proposed camster wind farm on hen harriers and merlins. [SSE_11.110]

²⁴⁷ Harriers of the world; Their behaviour and ecology. [RSPB F18]

5.341 The evidence of Dr Zisman should be preferred. He provided a reasoned explanation as to the basis upon which he is satisfied that the known limitations associated with female-only models did not invalidate the conclusions reached in the 2013 assessment work, under reference to highly authoritative published research work. Moreover, Dr Zisman's evidence should be preferred because RSPB's case on this point depends upon a difference in professional opinion, where that professional opinion on the part of Dr McCluskie has been shown to be highly subjective. However, taking into consideration the insights that he has from the highly reputed modelling of Dr Fielding and Dr Whitfield, Scottish Ministers are invited to take account of the PVA results in SSE_11.31 at paragraph 4.5, which states that even if the effects of wind farms are much larger than the available evidence suggests it is unlikely that these effects would result in major population effects. Before leaving the discussion of the applicant's evidence, it was submitted that it has been demonstrated that there is sufficient certainty that predicted mortality levels from Strathy South alone will not adversely impact the population viability of the SPA's harrier population. Figures presented in the applicant's further written submissions dated 26 June 2015, show this is also the case for 'in combination' cumulative collision mortality. Both these conclusions have been accepted by SNH, following its consideration of further information provided by the applicant.

5.342 It is the evidence of Dr McCluskie that is unsafe for the purposes of reaching a sound conclusion as to the likely population effects that would result from the development of a wind farm at Strathy South. Dr McCluskie quite clearly is not objective when it comes to the subject of hen harrier and states opinions based upon his own conservationist stance. He confirmed that he and RSPB Scotland took a more precautionary approach than SNH to the issue of collision risk and other causes of decline in the regional and national population of harrier. It would not be unfair to characterise the evidence of Dr McCluskie as amounting to overstatement and lack of scientific rigour when discussing the causes of population decline. There were many examples in his evidence. When asked what, in his opinion, was the number of harrier that could be lost to the SPA population as a consequence of the operation of the proposed wind farm, his response was that he considered that even the loss of one bird would be one bird too many. He did indicate that he was aware that in giving that answer he was being extreme. His justification for giving the answer was based on his evidence of high levels of persecution in the north of England, which he stated could result in the extinction of that regional population.

5.343 In that connection, one of the issues that he spent time on in evidence-in-chief was to provide a brief, although largely incomprehensible (until questioned in more detail in cross-examination), explanation of the relevance of personal comments from S Murphy in relation to the activities of a tagged female hen harrier from Bowland in Yorkshire, who had been named by Mr Murphy in his emails reporting on her activities, as "Bowland Betty". Dr McCluskie confirmed in cross-examination the nature of the documents produced by him as inquiry documents F27²⁴⁸ and F28²⁴⁹. In his evidence-in-chief, he explained for the first time that his evidence under reference to the tracked journey of Betty was that this "evidence" showed that the hen harrier population in the north of England is "contiguous" with the population in the north of Scotland, and the SPA. On that basis he argued that because hen harriers are so heavily persecuted in the north of England, in national terms "we don't have any spare hen harrier".

²⁴⁸ S Murphy pers comm (2012a). [RSPB F27]

²⁴⁹ S Murphy pers comm (2012b). [RSPB F28]

5.344 In cross-examination he advised that to his knowledge Mr Murphy had been working with hen harrier since 2001 and was involved with tagging birds and then following their movements. He accepted that it was informal but sought to suggest that it was scientific study. He also contended that the work couldn't be used to publish a paper, for legal reasons that Dr McCluskie did not seem to understand and certainly couldn't explain to the inquiry. He volunteered that his hypothesis as to the connection between the population in the north of England with the population in the north of Scotland, could have been reinforced by other data but he hadn't produced it.

5.345 The consequence is that his hypothesis is based solely on the tracked activities of one bird from the north of England and personal comments. In that regard, he accepted that this was only evidence of one hen harrier commuting to the north of Scotland in the breeding season and not the other way round. This is significant as there is no evidence of a linkage between birds from the SPA carrying out the journey in reverse. He also accepted that when one looked at the tracked flights and Betty's chosen resting places along the way, there was no evidence that the development site was a stopping off place for Betty. There was no scientific analysis of the entire route or ancillary data as to the selected habitat, the use made of it or the flight activity. He confirmed that it was thought that Betty stopped in Forsinard before possibly crossing to Orkney, on which there was a much greater abundance of vole. Given the emphasis that Dr McCluskie placed on published literature, proper recording of data and scientific analysis when considering the applicant's survey work and data, Dr McCluskie's reliance on such evidence to give evidence to an inquiry demonstrates that he had different standards when forming his own opinions for the purpose of giving expert evidence on hen harrier.

5.346 Finally, it was put to him that as the evidence was that his particular bird made use of more optimal habitat at Forsinard, there was no evidence that birds from the north of England making such long flights would select sub-optimal habitat at Strathy South. His response to that was to suggest that a distant relative of Betty might travel to Strathy South and breed. This passage of evidence significantly undermined the reliability of Dr McCluskie's evidence on issues related to population viability. He accepted that persecution is the biggest threat to hen harrier populations, followed by changes in agricultural practices or other causes of habitat change, and that the lower magnitude of threat associated with collision risk from wind farm development did not compare in terms of population effect. Despite that acceptance he sought to create the impression that collision mortality could have a disproportionate effect. Thus demonstrating a lack of objectivity in his opinions. Further, this section of evidence calls into question the scientific rigour that attaches to RSPB's analysis of population issues. Remembering that RSPB cross-examined Dr Zisman and sought to make a mockery of the fact that he made reference to a poster presentation related to Paul's Hill monitoring, it is astonishing that RSPB and Dr McCluskie sought to present this type of "evidence" to a public inquiry as support for what cannot be treated as anything other than a hypothesis.

5.347 This section of evidence has a particular significance, notwithstanding its lack of relevance. It clearly was presented for the purpose of seeking to argue the loss of a harrier at Strathy South could have implications for the national population. Relying as they do on this type of evidence in respect of Bowland Betty, exposes both Dr McCluskie and RSPB Scotland to the criticism that it has based its objection in relation to population effect on no more than pseudo-science. This evidence is also completely irrelevant to this inquiry as there is no link shown to the development site. Rather, its relevance comes from the harm it does to RSPB Scotland and Dr McCluskie in terms of credibility and reliability. This was

no doubt that this was not what RSPB Scotland intended when the documents were lodged and Dr McCluskie was invited to provide the inquiry with an explanation as to their supposed relevance. Despite the fact that this evidence took up some inquiry time, and was considered important enough to spend some time on in evidence-in-chief, it is not relied upon in closing submission. Perhaps after cross-examination, there was a realisation that this evidence did not support the proposition that the loss of one bird to collision at the proposed Strathy South would result in a population effect of national significance.

5.348 In conclusion, in relation to population viability, Scottish Ministers are invited to accept the evidence of Dr Zisman as to the basis upon which he concludes that the development of the proposed wind farm at Strathy South would not threaten the maintenance of the hen harrier population as a viable component of the SPA in the long term. This is based upon robust CRM and an understanding of the behaviour of this species and the specific site conditions that can be managed to dissuade the use of the site by hen harrier. The assessment carried out by the applicant has been accepted by SNH.

5.349 Under reference to the submissions made above, as to the correct approach to applying the legal tests contained in Article 6(3) of the WBD, it is suggested that it has been ascertained from the scientific assessment carried out by RPS that Scottish Ministers can be certain that the integrity of the site would not be adversely affected as a consequence of the predicted impacts on hen harrier. In reaching this conclusion regard should be had to:

- The considerations set out above that are of relevance to the assessment of the weight that can be attached to the evidence produced and relied upon by the applicant and its expert witness, concerning the predicted impact on hen harrier, and the implications for the SPA.
- The evidence of Dr Zisman and Dr Dargie (in relation to habitat issues discussed in the Inquiry session of relevance to hen harrier), produced in writing and oral evidence, together with the supporting inquiry documents that they have relied upon in their consideration of the issues, supports their expert opinion. Both witnesses were considered and quietly confident in their opinions and were not, it is submitted, undermined by cross-examination. Their evidence supports the conclusion that there is no reasonable scientific doubt remaining that the proposed wind farm will not have an adverse effect on the integrity of the SPA in relation to this qualifying species.
- The issues raised by RSPB Scotland were primarily related to the main, if not only, ground of objection that the collision risk had been underestimated and that consequently, the applicant had failed to demonstrate that 3 of the 5 conservation objectives had been met. Reference is made to the legal submissions above regarding the correct approach to the question of certainty and the onus of proof (made in relation to SNH's objection in relation to red-throated diver), which are of equal force as regards this qualifying species. The evidence of Dr McCluskie was not based upon reliable and credible evidence.
- The careful analysis of the evidence that is provided in the preceding discussion in this section that supports our summary points on the evidence from the different witnesses.
- The considerations founded upon in this section of the submission that demonstrate that the objections from the RSPB Scotland in relation to hen harrier are overstated, unsubstantiated by any reliable scientific evidence, and, lack credibility and substance as shown in relation to collision risk modelling and population effect, by way of example. In particular, the specific grounds of

objection, do not give rise to any reasonable scientific doubt as to the implications for the integrity of the SPA; it would not be adversely affected as a consequence of the predicted impacts in respect of hen harrier. In that connection reference is made to the legal submissions as to the nature of the evidence that can reasonably be expected from objectors contesting a wind farm proposal that has implications for a Natura site.

5.350 On that basis it was submitted that Scottish Ministers are entitled to conclude that the assessment against the conservation objectives that is provided in Table A11.8 in Chapter A11 in CD_4.5 can be relied upon and is supported by the evidence of the applicant and, that no reasonable scientific doubt remains.

Compliance with legal obligations

5.351 The applicant has demonstrated that there is a sound basis in evidence upon which to found the factual conclusions that require to be reached for the purpose of ensuring that the legal requirements under Article 6(3) of the WBD are met. Accordingly, there is no legal barrier under the WBD to the grant of section 36 consent and deemed planning permission for the construction and operation of the proposed Strathy South Wind Farm.

5.352 Account should also be taken of the further revisions made to the layout by removing an additional eight turbines to reduce impacts on qualifying species. In that connection, it has been noted in the context of considering the removal of turbine 51 as an additional precautionary measure in respect of wood sandpiper, that the conditions and description of the development as currently drafted do not ensure that the development would comprise only those turbines shown in the layout that accompanies the FIR (2014). Therefore, it is proposed that the remedy to this difficulty is to make reference to the relevant layout in the first bullet point of the description of the development that would form part of the section 36 consent. It is therefore suggested to amend the first bullet point by inserting after “39 (amended from 47) wind turbines”, the following text “as shown in SSE document CD 5.1 “Further Information Report (T39 Layout), November 2014, Figure 1.2: and specific to those locations as further defined in the table of turbine coordinates provided in table 4.1.1 of that same document”.

Scottish Natural Heritage's position

5.353 Scottish Natural Heritage's position is endorsed by the Highland Council, which agreed to object to the proposed application following SNH's opposition.

European legislation

5.354 The proposed development is adjacent to and surrounded by a Special Protection Area (SPA) established under Article 4 of the Birds Directive, territories subject to special conservation measures, and a Special Area of Conservation (SAC) under the Habitats Directive.

5.355 When developments are proposed which may have an impact on a SAC and/or SPA and/or the habitats or species within same, it is necessary to consider the potential impact on the site and whether further investigation is needed. It should be noted that the obligations on Member States are to take appropriate steps in protected sites to avoid (i) deterioration of habitats generally and habitats of qualifying species in particular; and (ii) disturbance of the qualifying species insofar as such disturbance may be significant having regard to the objectives of the Habitats Directive.

5.356 In discharging those obligations in relation to the proposed development, including in carrying out the appropriate assessment for those qualifying species of the SPA, in relation to which there may be significant adverse effects, the taking of appropriate steps to avoid deterioration of habitats generally and habitats of qualifying species in particular, the obligation is unqualified. It is only in the case of the avoidance of the disturbance of the qualifying species that the obligation of avoidance of such disturbance applies insofar as such disturbance may be significant having regard to the objectives of the Habitats Directive.

5.357 This is consistent with the preamble to the Habitats Directive which sets out in detail the essential and priority importance of the early implementation of measures to conserve and preserve the habitats within the EU which support, amongst others, threatened wild species. The avoidance of deterioration of such habitats is therefore a central purpose of the Habitats Directive and any failure to avoid such deterioration by, for example approving/giving consent to a plan or projects such as the proposed Strathy South Wind Farm, in respect of which it could not be 'certain' that such avoidance would be achieved would therefore be significant having regards to the objectives of the Habitats Directive.

5.358 In the case of disturbance of qualifying species the relevant Member State has to consider whether it has been established that it is certain that the proposed plan or project would avoid disturbance of the qualifying species so far as may be significant having regard to the objectives of the Habitats Directive.

5.359 In the event the Scottish Ministers cannot be 'certain' that permitting the proposed development to proceed would in any respect 'fail to avoid' for any of the purposes of Article 6(2) of the Habitats Directive, in circumstances, as with Strathy South, where Article 6(4) does not apply, then the Scottish Ministers cannot have ascertained that the plan or project would not adversely affect the protected site and the appropriate step for it to take in the discharge of its obligations in terms of Article 6(2) is to refuse the application for the consent and deemed approval sought.

5.360 As the nature of the development and factors potentially affecting the site are variable, it is not possible to be prescriptive as to what will merit further assessment. If there may be a link or any interaction between a proposed plan or project, such as Strathy South, and a SAC and/or SPA then it is necessary to give specific consideration subject to the prescribed criteria to that plan or project.

5.361 This is set out in Article 6(3) which provides that subject to the specified considerations where a plan or project may have significant effects on a protected site an appropriate assessment must be carried out to be 'certain' that the proposed development would not have an adverse effect on the integrity of the protected site.

5.362 A detailed description of the relevant European provisions and their interaction may be found in paragraphs [4] to [1] OJ of the judgment of the Court given by Lord President Rodger in RSPB v Secretary of State. In paragraphs [11] and [12] in that case the Court held that Article 6(2) of the Habitats Directive imported into the Birds Directive: "the need to take appropriate steps, in special protection areas, to avoid disturbance of the species of birds for which the areas have been classified, insofar as such disturbance could be significant in relation to the objectives of "this Directive"- meaning the Habitats Directive, in which those words are found." The Court confirmed that the obligation in Article 6(2) is an obligation incumbent on the member state to: "Avoid disturbance of the species insofar as such disturbance could be significant in relation to the objectives of the Habitats Directive. Whatever the exact content or extent of that obligation may be in any given case, as a matter of substance its content and extent are to be measured by reference to the objectives of the Habitats Directive."

5.363 The Court goes on to observe that although the Habitats Directive does not supersede the Birds Directive or the provisions of that Directive for the classification of special protection areas: "Once classified under the Birds Directive those areas [SPAs] are incorporated into the Natura 2000 network of special areas of conservation. One would therefore expect that the scheme for the protection of the special areas of conservation in the Natura 2000 network, which is laid down in Article 6(2)-(4), would also apply, in the same way, to the special protection areas that form part of that network. The application of the same obligations to all parts of the network, whether their classification derives from the Birds Directive or the Habitats Directive, helps to make the network "coherent". If a distinct obligation defined by reference to the objectives of the Birds Directive were applied to the parts of the network comprising special protection areas, this would tend to make the network less coherent."

5.364 Lord Rodger then went on to consider, in paragraph [15] the interrelationship between Articles 6(2), 6(3) and 6(4) of the Habitats Directive with reference to SPAs. He observes firstly that Article 6(2) is not to be read in isolation but rather in conjunction with Articles 6(3) and (4). The consequences of this conjunctive reading are: "The obligations of the Member States in respect of special areas of protection are to be gathered from the totality of the provisions in these paragraphs. The extent of the obligations in paras (3) and (4) is plainly to be measured by reference to the conservation objectives for the special protection area under the Habitats Directive. It would make little sense for different objectives to apply to para (2)."

5.365 Lord Rodger concluded: "I am satisfied that under Article 4(4) of the Birds Directive the obligation of the Scottish Ministers is to take appropriate steps to avoid disturbance of

the species for which the special protection areas have been designated, insofar as such disturbance could be significant in relation to the objectives of the Habitats Directive."

5.366 In that case, the obligation on Scottish Ministers was to take appropriate steps to avoid disturbance of the barnacle geese and white fronted geese for which the relevant special protection areas on Islay had been designated. In the case of the present application the obligation on the Scottish Ministers, having regard to the concerns identified by SNH and accepted by THC in their objections to the application, is to take appropriate steps to avoid disturbance of the greenshank, red-throated divers and hen harrier (in the case of the last of these if the proposed development is consented by the conditions proposed including the sward management condition) for which inter alia the SPA which surrounds the application site was classified in so far as the disturbance of these species could be significant in relation to the objectives of the Habitats Directive. Those are the "obligations" set out in Articles 6(2), (3) and (4) to be read and understood in light of the aims in Articles 2(1) and (2) and expanded in Articles 3(1) and (2) all of the Habitats Directive.

5.367 Furthermore, in that case the Court confirmed that it was relevant to consider the effect of the disturbance on the population of the species within the relevant SPA. The Court observed that such areas are classified because they are the most suitable territories for the conservation of the relevant species of birds which are in need of protection: "But the point at issue here remains the degree of disturbance of the species in a special protection area which is permissible under the legislation. In light of the foregoing analysis of paragraph 27 of the judgment of the Court in the German Dykes case, I am satisfied that, contrary to the submission on behalf of the respondent, it is relevant to consider the effect of the disturbance on the population of the species in the special protection area itself. Such areas are classified precisely because they are the most suitable territories for the conservation of species of birds which are in need of special protection. Adopting the reasoning of the Advocate General in the passage which I have quoted but applying it to the amended version of article 4(4), I would hold that the objective is to ensure that the conservation status of the vulnerable species is favourable. Therefore, disturbance which adversely affected the conservation status of the birds on the site would be significant. In particular disturbance should not impair the protection of the quality of the living conditions of the birds on the site and so affect their ability to maintain themselves on a long term basis as a viable component of their natural habitat."

5.368 Lord Rodger concludes in that case that "While it does not have any binding legal status, I find support for the approach which I prefer in para 3.6.2 of the guidance "Managing Natura 2000 sites" issued by the Commission in April 2000. But, as that paragraph indeed emphasises, even although the effects of any disturbance on the relevant birds in a special protection area must be taken into account, it does not, of course, follow that no disturbance whatever of the birds is permitted. What is not permitted is disturbance which adversely affects the ability of the species to maintain itself on a long term basis on the site or - as the Commission puts it- which could contribute to the long term decline of the species on the site."

5.369 The same issue was discussed by the Supreme Court in "Sustainable Shetland v The Scottish Ministers". The issues in that case were primarily concerned with the impact on a particular species of wild birds outside of a European protected site, but Lord Carnwath who gave the only judgment, with whom the other members of the court agreed,

discussed the relevant European directives in light of the provisions of the Electricity Act 1989.

5.370 As it is clear from the *RSPB* case that the context in which a SPA has been established (i.e. the provisions of Article 4(1) of the Birds Directive) are relevant in applying the aims and obligations from the Habitats Directive in terms of which the first sentence of Article 4(4) of the Birds Directive is to be read. A SPA has been established for the protection of the qualifying species of the SPA. The status of "qualifying species" identifies that the relevant species are in need of protection. That protection includes, but is not limited to, ensuring that there is no deterioration of the habitats of those species in the SPA, no disturbance of the qualifying species of the SPA and favourably maintaining the population of those qualifying species, all having regard to the conservation objectives of the SPA. That is the context in which Scottish Ministers should approach the appropriate assessment which is required in the case of this application for the reasons set out below.

Domestic legislation

5.371 The requirements of the Habitats Directive, so far as dealing with applications for approval/consent for plans and projects within the devolved functions of the Scottish Ministers are concerned, have been incorporated into domestic Scottish legislation by The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) ("the Habitats Regulations").

5.372 Article 3(1) of the Habitats Regulations requires that the Scottish Ministers and Scottish Natural Heritage, as the appropriate nature conservation body, must exercise their functions so as to secure compliance with the requirements of the Directives.

5.373 Regulation 10(1) defines a European site as including (a) special areas of conservation and (b) areas classified pursuant to Articles 4(1) or (2) of the Birds Directive (special protection areas).

5.374 Regulation 48 sets out a number of steps to be taken by the relevant competent authority, in this case the Scottish Ministers, before approval is given for a plan or project such as Strathy South to proceed:

(1) "A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which (a) is likely to have a significant effect on a European site in Great Britain... (either alone or in combination with other plans or projects), and (b) is not directly connected with or necessary to the management of the site, shall make an appropriate assessment of the implications for the site in view of that site's conservation objectives.

(2) A person applying for any such consent, permission or other authorisation shall provide such information as the competent authority may reasonably require for the purposes of the assessment or to enable the competent authority to determine whether an appropriate assessment is required.

(3) The competent authority shall for the purposes of the assessment consult the appropriate nature conservation body and have regard to any representations made by that body within such reasonable time as the authority may specify.

(4) They shall also, if they consider it appropriate, take the opinion of the general public; and if they do so, they shall take such steps for that purpose as they consider appropriate.

(5) In the light of the conclusions of the assessment, and subject to regulation 49, the authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site...

(6) In considering whether a plan or project will adversely affect the integrity of the site, the authority shall have regard to the manner in which it is proposed to be carried out or to any conditions or restrictions subject to which they propose that the consent, permission or other authorisation should be given."

5.375 Whilst the 1994 Habitats Regulations apply to consideration of plans or projects which are relevant to protected sites and fall within the devolved functions of the Scottish Ministers, the grant of consent under section 36 of the Electricity Act 1989 is a reserved matter which has not been legislatively devolved.

5.376 Decisions on whether to grant section 36 consent remains within the reserved competence of the UK Government but has been delegated to the Scottish Ministers by the UK Government. The practical effect, so far as this application is concerned, is that the relevant UK regulations which apply to the determination of the application for the section 36 consent, in implement of the relevant provisions of the Habitats Directive discussed above, are The Conservation of Habitats and Species Regulations 2010 ("the 2010 Habitats Regulations").

5.377 Regulation 2.2(g) of the 2010 Habitats Regulations has the effect of providing that Chapter 4 of Part 6 (Electricity) applies to Scotland.

5.378 Regulation 86(1)(a) of the 2010 Habitats Regulations is to the effect that the assessment provisions of the 2010 Habitats Regulations applies to applications for consent in terms of section 36 of the Electricity Act 1989. This is the consent required for construction etc. of generating stations such as that proposed at Strathy South.

5.379 Regulation 61 of the 2010 Habitats Regulations sets out the basis for the assessment and implications for European sites. Regulation 61 of the 2010 Habitats Regulations is the equivalent of Regulation 48 of the 1994 Habitats Regulations.

5.380 Regulation 61 provides as follows, so far as relevant to the present application:

"(1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which (a) is likely to have a significant effect on a European site ...(either alone or in combination with other plans or projects),and

(b) is not directly connected with or necessary to the management of that site) must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.

(2) A person applying for any such consent, permission or other authorisation must provide such information as the competent authority may reasonably require for the

purposes of the assessment or to enable them to determine whether an appropriate assessment is required.

(3) The competent authority must for the purposes of the assessment consult the appropriate nature conservation body and have regard to any representations made by that body within such reasonable time as the authority specifies.

(4) They must also, if they consider it appropriate, take the opinion of the general public, and if they do so, they must take such steps for that purpose as they consider appropriate.

(5) In the light of the conclusions of the assessment, and subject to regulation 62 (considerations of overriding public interest), the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site

(6) In considering whether a plan or project will adversely affect the integrity of the site, the authority must have regard to the manner in which it is proposed to be carried out or to any conditions or restrictions subject to which they propose that the consent, permission or other authorisation should be given."

5.381 There is a significant commonality of wording as between Regulation 48 of the 1994 Habitats Regulations and Regulation 61 of the 2010 Habitats Regulations. The reference to Regulation 49 in Regulation 48(5) of the 1994 Habitats Regulations is the equivalent of the reference to Regulation 62 in Regulation 61(5) of the 2010 Habitats Regulations. Since both Regulations 48 and 61 are derived directly from Articles 6(2)-6(4) of the Habitats Directive, it is hardly surprising that there should be the very close degree of common wording between the two Regulations.

5.382 To date, the evidence before the inquiry has referred to Regulation 48. It is convenient therefore to make such references. However, I, in reporting to the Scottish Ministers, and the Scottish Ministers in determining the application for consent under section 36 of the Electricity Act 1989, when undertaking the assessment of implications in relation to the SAC and SPA arising from the section 36 application, should do so under reference to Regulation 61 of the 2010 Habitats Regulations.

5.383 It is observed that a direction that planning permission is deemed to be granted in respect of a generating station and any ancillary developments is made in terms of section 57(2) of the Town and Country Planning (Scotland) Act 1997. If consent under section 36 of the Electricity Act 1989 is granted, then section 57(2) allows the Scottish Ministers to so direct that deemed planning consent is granted. It may be argued that the decision to direct that deemed planning permission be granted is one which falls within the devolved competence of Scottish Ministers and that therefore strictly speaking, any appropriate assessment that is carried out with respect to the direction of the granting of deemed planning permission is one that falls to be carried out in terms of Regulation 48 of the 1994 Habitats Regulations as opposed to Regulation 61 of the 2010 Habitats Regulations. However, nothing turns on this issue at a practical level since the approach and criteria required to be adopted is the same in respect of both Regulations and, in any event, the matter is likely to be determined for all practical purposes by the appropriate assessment carried out under and in terms of Regulation 61 of the 2010 Habitats Regulations.

5.384 If the competent authority determines that the proposal is not directly connected to or necessary for the management of the site, it must consider whether it (alone, or, where relevant, in combination with other plans or projects) is likely to have a significant effect on the site. If so, it must carry out an appropriate assessment of the implications for the site, in view of that site's conservation objectives. By means of that appropriate assessment, it must determine whether it can be ascertained that the proposal would not adversely affect the integrity of the site. It must do all of those having regard to the relevant obligations in Articles 6(2), (3) & (4) of the Habitats Directive as described above.

5.385 EC Guidance advises that "management of the site" refers to the purposes of nature conservation. It is not considered and has not been suggested that the construction and operation of a wind farm on the application site and the formation of a track across the SPA is connected with or necessary for the management of the SPA.

5.386 As regards the likelihood of significant effects this is to be understood with respect to the site's qualifying interests and in view of the protected site's conservation objectives. If it is identified that a development proposal raises issues as regards the qualifying interests of a protected site and/or in view of its conservation objectives, then this would indicate that significant effects are likely to occur. It is also necessary to consider whether there are any other developments that should be considered in conjunction with the proposal so that any potential cumulative effects are taken into account. This is relevant in the context of this application where consent has already been granted for wind farms developments to proceed in the area and there is a proposal for further wind farm development at Strathy Wood which is proximate to the application site and is also surrounded by the SAC and SPA.

5.387 EC Guidance refers to the safeguards in Article 6(3) and (4) being triggered not by a certainty but by a likelihood and, with reference to the precautionary principle. This guidance provides that it "is unacceptable to fail to undertake an assessment on the basis that significant effects are not certain". It follows that the possibility of a significant effect should be enough to trigger the need for an appropriate assessment.

5.388 The European Commission's summary of legal cases supports this interpretation: "Article 6(3)... the requirement for an appropriate assessment of the implications of a plan or project is thus conditional on its being likely to have a significant effect on the site" With reference to the precautionary principle described as one of the foundations of the high level of protection pursued by Community policy by which the Habitats Directive must be interpreted, "such a risk exists if it cannot be excluded on the basis of objective information that the plan or project will have significant effects on the site concerned. Such an interpretation of the condition to which the assessment of the implications of a plan or project for a specific site is subject, which implies that in case of doubt as to the absence of significant effects such an assessment must be carried out, makes it possible to ensure effectively that ... projects which adversely affect the integrity of the site concerned are not authorised". This guidance also makes it clear that where the effect of a plan or project is likely to undermine its conservation objectives it must necessarily be considered to result in likely significant effects.

5.389 If, as it is submitted that it should be here with the Strathy South application, the decision is that there are 'likely significant effects', then it is necessary to undertake an appropriate assessment in view of the conservation objectives of the site. The competent

authority is by Regulation 48(3) obliged to consult SNH on the assessment and have regard to its representations. The considerations which should be accorded to such representations are discussed below.

5.390 In carrying out the appropriate assessment the competent authority is required to have regard to the manner in which the plan or project is proposed to be carried out and any proposed conditions or restrictions which will be attached to and/or imposed on the plan or project when deciding whether or not the plan or project will adversely affect the integrity of the site.

5.391 What is meant by the integrity of the site, an adverse effect on it in this the context, together with the means of carrying out an appropriate assessment and the standard of proof required in carrying out an appropriate assessment, is discussed below.

5.392 The competent authority may agree to grant the consent, permission or other authorisation for the relevant plan or project to proceed, subject to Regulation 49, if, and only if, it has been ascertained that the integrity of the site would not be adversely affected.

5.393 If it cannot be so ascertained that the proposal would not adversely affect the integrity of the protected site, the competent authority must then go on to consider, in an appropriate case, whether there are no alternative solutions and whether the plan or proposal must be carried out for imperative reasons of overriding public interest. If, and only if, there are imperative reasons of overriding public interest the competent authority must go on to consider whether compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000 can be secured.

5.394 Regulation 49 need only be considered if it is shown that there are no alternatives to the plan or proposal. It provides, in a circumstance in which there is no alternative location for the plan or project, a means by which permission may be granted for reasons of overriding public interest and whether compensatory measures are necessary.

5.395 The Article 6(4) Guidance "Habitats Directive 92/43/EEC" discusses the imperative reasons of overriding public interest and provides at section 5.3.2 that: "It is reasonable to consider that the 'imperative reasons of overriding public interest, including those of a social and economic nature' refer to situations where plans or projects envisaged prove to be indispensable:

- within the framework of actions or policies aiming to protect fundamental values for the citizens' lives (health, safety, environment)
- within the framework of fundamental policies for the State and society;
- within the framework of carrying out activities of an economic or social nature, fulfilling specific obligations of public service."

5.396 It is only where it has been concluded that there is no alternative location for the relevant plan or project and that the plan or project is necessary by reason of overriding public interest that compensatory measures need to be considered. Compensatory measures are distinct from mitigation measures and guidance on this is found in section 5.4.1 of the Article 6.4 Guidance: "The term "compensatory measures" is not defined in the 'Habitats' Directive. Experience would suggest the following distinction: Mitigation measures in the broader sense, which aim to minimise or even cancel the negative impacts on the site itself (See Section 4.5)"

5.397 Mitigation measures are an integral part of the specifications of a plan or project (see section 4.5 of the leaflet "Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive"), and "Compensatory measures sensu stricto: independent of the project, they are intended to compensate for the effects on a habitat affected negatively by the plan or project. For example, general tree-planting to soften a landscape impact does not compensate for the destruction of a wooded habitat with quite specific characteristics." So that the overall ecological coherence of the Natura 2000 Network is maintained.

5.398 In the case of the Strathy South application, no issue arises under Regulation 49, including with respect to compensatory measures, in respect that the applicants included no reference to intending to advance a Regulation 49 argument in its Inquiry Statement. In any event, no evidence has been laid before the inquiry in support of a case in terms of Regulation 49, including that there is no evidence of there being no alternative location for the proposed development, no material from which it could be concluded that there is an overriding public interest in this particular proposed wind farm development proceeding and no evidence as to what compensatory measures would be required for the wind farm development to proceed notwithstanding its significant effects and the failure to establish that it would not have an adverse effect on the integrity of the SPA. In short, there is no material before the inquiry from which it would be possible to recommend to and for Scottish Ministers to conclude that a case under Regulation 49 had been made out. At no point has been suggested that such a case could be made out. This was included in Dr Mudge's evidence and he was not cross-examined on the point.

Conservation objectives

5.399 Although conservation objectives for European sites are site specific, the approach taken when preparing these is as follows:

5.400 EC Guidance states that the conservation objectives should be based on the "significant" interests, which are referred to as the qualifying interests.

5.401 The Conservation Objectives for the Caithness and Sutherland Peatlands SPA are:

- (a) To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained.
- (b) To ensure for the qualifying species that the following are maintained in the long term:
 - Population of the species as a viable component of the site;
 - Distribution of the species within site;
 - Distribution and extent of habitats supporting the species;
 - Structure, function and supporting processes of habitats supporting the species;
 - No significant disturbance of the species.

5.402 Part (a) of these objectives reflects the obligations imposed on Member States by Article 6(2) of the Habitats Directive as those obligations require to be understood in the context of the first sentence of Article 4(4) of the Birds Directive. In the case of the Caithness and Sutherland Peatlands SPA and Strathy South those obligations include that the Scottish Ministers are required to avoid the deterioration of the natural habitats of the

SAC and SPA generally, the deterioration of the habitats of the qualifying species of the SPA, in particular in light of the representations of SNH, greenshank, red-throated diver and hen harrier and, having regard to the objectives of the Habitats Directive, the avoidance of the disturbance of the qualifying species of the SPA, again with particular reference to the concerns so expressed by SNH, with respect to greenshank, red-throated diver and hen harrier, so far as such disturbance may be significant having regard to such objectives.

5.403 The first conservation objective of the Caithness and Sutherland Peatlands SPA includes for both: (i) the avoidance of the deterioration of the habitats of qualifying species of the protected site; and (ii) the avoidance of disturbance to the qualifying species of the protected site, as the means by which the integrity of the protected site will be maintained. Since any decision on any plan or project not directly connected with the management of the SPA and which is likely to have significant effects on it, such as Strathy South, is dependent on a 'certainty' as to the absence of adverse impacts on the integrity of the protected site having regard to its qualifying objectives and that the first of those objectives specifically identifies what must be done to "ensure" such integrity. It follows that unless Scottish Ministers are 'certain' that deterioration of the habitats of qualifying species of the protected site, having regard to the representations of SNH, each of greenshank, red-throated diver and hen harrier, and that the disturbance of each of those species would be avoided if the plan or project proceeds then it follows that the Scottish Ministers cannot ascertain that the plan or project would not adversely affect the integrity of the protected site and the application for section 36 consent and for the grant of deemed planning permission in relation to Strathy South must be refused.

5.404 Part (b) and the subsequent bullet points, provide more detail as to the component parts of the integrity of the site that are relevant when considering a plan or project in terms of Regulation 48 and whether it can be ascertained with 'certainty' that the plan or project would not have an adverse effect on the integrity of the relevant protected site. If the evidence does not establish that it is 'certain' that each and all of the five bullets would be maintained in the long term, where the plan or project proceeds, then it cannot be established that a plan or project would not adversely affect the integrity on the protected site. The detail of Part (b) and the respects in which the Scottish Ministers cannot be satisfied to the requisite standard of 'certainty' as regards each of the greenshank and red-throated diver qualifying interest are discussed in detail below.

Application of Regulation 48 in Practice

A. Likely Significant Effect

5.405 The case law gives guidance on the proper application of Regulation 48 and, in particular, on 'likely significant effects' and what is meant by an adverse effect on the integrity of site.

5.406 As quoted at paragraph 43 in Bagmoor: " the determination, of whether a significant effect is likely, is relevant only to the issue of how the application will be evaluated, rather than whether it will be granted. The Court describes this first, "screening" stage as a "procedure . . . by means of a preliminary examination" to ensure an appropriate assessment is carried out when necessary (para [33]). It is essentially a procedural step taken by the competent authority to determine the form of evaluation that will be made. The way this first step is performed, if done correctly, ought not to affect the substantive result."

5.407 It is SNH's "representation" to ministers for the purposes of Regulation 48(3) that the proposed development at Strathy South would likely have significant effects on the greenshank, red-throated diver and hen harrier qualifying interests and that it is therefore necessary to consider whether it can be established with 'certainty' that the proposed development would not adversely affect the integrity of the SPA, i.e. to carry out an appropriate assessment.

5.408 The leading case on the interpretation of Article 6 of the Habitats Directive and Article 4 of the Birds Directive is Waddenzee.

5.409 The judgment in that case has informed the correct interpretation of likely significant effects and that the protection in Article 6(3) of the Habitats Directive does not only apply where the plan or project definitely has significant effects - that protection follows from the 'mere probability that such an effect attaches to that plan or project'. In so holding the Court quoted with approval from European Commission Guidance.

5.410 It was noted in the opinion of the Advocate General Kokott, in Waddenzee, that as the authorisation procedure for such plans and projects is intended to ensure that such areas are protected from any associated significant effects, the requirements as to how probable such an effect is required to be ought not to be too stringent. Thus, the criterion must be: "Whether or not reasonable doubt exists as to the absence of significant adverse effects. In assessing doubt, account will have to be taken, on the one hand, of the likelihood of harm and, on the other, also of the extent and nature of such harm".

5.411 At paragraph 69 of the Opinion, the degree of probability of significant effect in the different language versions of the Directive is considered. It is observed that the conclusion that may be drawn from the different wordings is that "it is not necessary that an adverse effect will certainly occur but that the necessary degree of probability remains unclear."

5.412 At paragraph 71 of the Opinion, it is stated that "the possibility of avoiding or minimising adverse effects should be irrelevant as regards determining the need for an appropriate assessment'. The need for an appropriate assessment being determined by whether the plan or project would have a significant adverse effect.

5.413 As observed at paragraph 73 of the Opinion, the extent and nature of the possible harm also requires to be taken into account. The Opinion goes on to observe that "in principle greater weight is to be attached to doubts as to the absence of irreversible effects or effects on particularly rare habitats or species than to doubts as to the absence of reversible or temporary effects or the absence of effects on relatively common species or habitats". The Opinion concludes on the subject at paragraph 74: "Therefore, an appropriate assessment is always necessary where reasonable doubt exists as to the absence of significant adverse effect."

5.414 At paragraph 80 of the Opinion, the requirement as to whether to undertake an appropriate assessment is described as "a rough assessment" which is to be undertaken without anticipating the actual appropriate assessment.

5.415 The importance of the conservation objectives in relation to the relevant site are noted at paragraph 84 of the Opinion. These objectives are relevant to the entire network of Natura 2000 sites. If an adverse effect was to be accepted merely because it rendered the attainment of these objectives difficult as opposed to impossible or unlikely, then the

result would be an erosion of species numbers and habitat areas covered by Natura 2000. Absent an appropriate assessment being carried out, it would not be possible to foresee the extent of the erosion with any degree of accuracy.

5.416 At paragraph 85 of the Opinion, the Advocate General concludes that: "Any adverse effect on the conservation objectives must be regarded as a significant adverse effect on the integrity of the site concerned. Only effects which have no impact on the conservation objectives are relevant for the purposes of Article 6(3) of the Habitats Directive. " Consequently, per paragraph 86 of the Opinion: " ... any effect on the conservation objectives has a significant effect on the site concerned."

5.417 It cannot be doubted in the case of Strathy South that if the development proceeds it will have an "effect" on the conservation objectives.

5.418 This approach was further discussed and explained recently in Sweetman where it was observed that there is no need to establish that there will be significant effects, it must merely be determined that there may be such effects.

5.419 Article 6(3) of the Habitats Directive establishes the requirement for a procedure in domestic law intended to ensure that a plan or project "not directly connected with or necessary to the management of the site concerned but likely to have a significant adverse effect on it" will only be approved to the extent that the integrity of the site is not adversely affected. Article 6(2) places a general obligation on Member States to avoid deterioration and disturbances which could have such significant effects. In order to achieve this the Court in Waddenzee held: " ... any plan or project not directly connected with or necessary to the management of the site is to be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site, either individually or in combination with other plans or projects."

5.420 Paragraph 53 confirms that this assessment must take into account any cumulative effects. This is relevant in the context of the Strathy South application.

5.421 AG Kokott expresses the opinion that the appropriate assessment must compare all of the adverse effects with the site's conservation objectives and these must therefore be identified. Conservation objectives can be deduced by the numbers within the SPA; however it can be difficult to encompass all the adverse effects in an exhaustive manner.

5.422 Therefore, unless objective information can be provided which excludes significant effects on the site, an appropriate assessment of the implications on the site's conservation objectives must be carried out. This interpretation makes it possible to ensure plans or projects which would adversely affect the integrity of the site are not authorised.

5.423 As regards conservation objectives judgment then goes on to say: " ... where a plan or project not directly connected with or necessary to the management of a site is likely to undermine the site's conservation objectives, it must be considered likely to have a significant effect on that site. " In terms of the word 'significant', AG Kokott states that this ' ... describes two comparison parameters, in this case the relationship between certain adverse effects on a protection area. The protection area is defined by its conservation objectives. The seriousness of the adverse effects is evident from the extent and nature of the possible harm. Not only the ability to reverse or offset the effects but also the rarity of

the habitats or species concerned are relevant in this respect'. Furthermore, 'in principle any adverse effect on the conservation objectives must be regarded as a significant adverse effect on the integrity of the site concerned'.

5.424 In the discussion of when such a plan or project will be approved, it is indicated that competent authorities may grant authorisation only where they are 'convinced that it will not adversely affect the integrity of the site concerned'. It goes on to say that '... where doubt remains as to the absence of adverse effects on the integrity of the site linked to the plan or project being considered, the competent authority will have to refuse authorisation ".

5.425 In Commission of the European Communities v Ireland [2007] ECR I-10947, the Government of Ireland, after asserting that the works in question within the SPA were merely maintenance works on existing drains and therefore did not have a significant impact on the habitats of the SPA, was found to have infringed the first element of Article 6(3) by its failure to assess the impact of the works on the conservation objectives of the SPA. Accordingly, something as minor as the maintenance of drains in an SPA should have been considered as having a likely significant effect, rendering an appropriate assessment necessary. This demonstrates at a practical level how low the threshold is set as requiring that an appropriate assessment is required.

5.426 In understanding the nature of the interaction between the consideration of whether a plan or proposal is likely to have a significant adverse effect and whether it can be determined that the proposal will not adversely affect the integrity of the site, it is important to bear in mind that these are considered to be components of the one prior examination assessment procedure. This is clear from paragraphs 28 and 29 of the judgment in Sweetman.

5.427 It may be argued that some damage to a protected site would be acceptable in circumstances where the site continued to contribute to the wider favourable conservation status of the species as a whole. Such an approach to integrity would be fundamentally misconceived. The 2000 EU Guidance unequivocally provides: "it is not allowed to destroy a site or part of it on the basis that the conservation status of the habitat types and species it hosts will in any way remain favourable within the European territory of the Member State."

5.428 Where a plan or project is likely to undermine a site's conservation objectives and is not directly connected with or necessary for the management of the site, then by paragraph 40 of the judgment it must be considered to have a significant effect on that site. The second stage in the prior examination assessment procedure described by paragraph 28 is the appropriate assessment.

5.429 The judgment in Sweetman describes these as two stages of a single assessment procedure. This is necessarily to be understood from the interrelationship between paragraphs 28 and 29 of the judgment in Sweetman. Any significant effects on a site having regard to its conservation objectives are identified at the first stage when it is also established whether the plan or project which results in such significant defects is not directly connected with or necessary for the management of the site concerned. In the second stage of the procedure the plan or project, which has already been identified as having significant effect(s) on the site is authorised only to the extent that it is ascertained that it will not adversely affect the integrity of that site.

5.430 In paragraph 30 of *Sweetman* it is observed that a plan or project which is not directly connected and which is likely to undermine that site's conservation objectives must, as a consequence, be considered likely to have a significant effect on that site. The first stage therefore identifies any significant effects from the plan or project which is not directly connected with or necessary for the management of the protected site or the conservation objectives of the site and which are likely to have an adverse effect on that site and the question for the second stage of the assessment procedure, i.e. the appropriate assessment, is whether having regard to those already identified significant effects on the site's conservation objectives and the likelihood of their adverse effect it can be established, to the high burden proof based on scientific certainty described in *Waddenzee*, that adverse effect from the plan or project on the integrity of the site can be excluded.

5.431 These two stages are therefore integrally linked. This is confirmed by reference by paragraph 43 of the Advocate General's opinion in *Sweetman* and at paragraph 34 of the judgment which makes clear the connections between Articles 6(2) and 6(3) of the Habitats Directive. That the two stages are part of the same assessment is made clear from the terms of the two sentences of Article 6(3) of the Habitats Directive which sets out the two stages in the first sentence.

5.432 The conclusion of paragraph 36 of the judgement in *Sweetman* as regards to SACs applies equally to SPAs for the reasons set out above. Articles 6(2) to 6(4) of the Habitats Directive have the effect of imposing on Member States a series of specific obligations and procedures.

5.433 Paragraph 38 of the judgement *Sweetman* goes on to observe that in the cases therein cited, the European Court, has previously held that the Habitats Directive has the aim: "that the Member States take appropriate protective measures to preserve the ecological characteristics of sites which host natural habitat types."

5.434 In the context of the Caithness and Sutherland Peatlands SPA, the practical application of that aim must therefore be, in considering Strathy South, whether, if it proceeds, Scottish Ministers can be 'certain' that the ecological characteristics of the SPA which hosts the qualifying species which are considered to be at risk by SNH from the proposed development, i.e. greenshank, red-throated diver and hen harrier would be preserved. If the Scottish Ministers cannot be so 'certain' then the appropriate measure, having regard to the need to protect those characteristics, is refusal of the section 36 application and of the deemed planning permission.

5.435 Having regard to the terms of the conservation objectives of the Caithness & Sutherland Peatlands SPA and the characteristics of the three qualifying species about which SNH has advised its concerns, it is relevant to consider what the Lord Justice Clerk said at paragraph 44 in Bagmoor Wind Limited v The Scottish Ministers: "... an appropriate assessment cannot be dispensed with except on the basis of objective information to the effect that there is no risk of significant effect. The word "likely" in the Regulation is not to be construed as an expression of probability, in a legal sense, but as a description of the existence of a risk (or possibility)."

5.436 At paragraph 48 the Court stated: "It is abundantly clear, at least to this Court, that the construction and operation of 14 wind turbines, each 110 metres high, in the foraging ground for eagles in an SPA would be "likely" to have (i.e. that there would be a risk of) a significant effect upon those eagles and hence the conservation objectives of the SPA.

Certainly, that prospect could not have been discounted upon a preliminary examination. Accordingly, the court considers that it was inevitable, on these simple facts alone, that an appropriate assessment under Regulation 48(1)(a) would have been required."

5.437 The construction and operation of the proposed wind farm at Strathy South is considered by SNH to have a likely significant effects on three qualifying species, greenshank, red-throated diver and hen harrier, of the Caithness and Sutherland Peatlands SPA which surrounds the turbine area of the development site and over which the access road passes, having regard to the conservation objectives of that SPA.

B. Appropriate Assessment

5.438 In terms of the Habitats Regulations and, subject to the appropriate regulation references, of the 2010 Habitats Regulations, it is the obligation of the competent authority to consult SNH on the assessment required by Regulation 48(1) and have regard to its representations. In light of the assessment, the competent authority must then decide whether it can be determined that the proposal "will not adversely affect the integrity" of the site, having regard to the manner in which it would be carried out and to any conditions or restrictions subject to which the consent must be granted.

5.439 According to the Sweetman judgement the appropriate assessment must contain "complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on the protected site concerned". This reiterates what was conclusively established in Waddenzee - the competent authority should only authorise a plan or project if they have made 'certain' that it will not adversely affect the integrity of the site – "that is the case where no reasonable scientific doubt remains as to the absence of such effects".

5.440 In European Commission v Kingdom of Spain it was observed that the proximity of the plan or project to the protected area was a relevant factor in considering whether it has been so made 'certain': ' .. it is apparent from the various documents before the Court ... bearing in mind the relatively short distances between various areas critical for the capercaillie and the open-cast mines in question, noise and vibrations caused by those operations are likely to be felt in those areas. It follows that those nuisances are capable of causing disturbances likely significantly to affect the objectives of the said directive, particularly the objectives of conserving the capercaillie. That is all the more so as it is undisputed that the capercaillie is a sensitive species and particularly demanding as to the tranquillity and quality of its habitats. "

Integrity

5.441 In terms of what is meant by integrity, this is not expressly defined in the Habitats Directive. However, it is described in Circular 6/1995 (Revised 2000) as follows: "The integrity of the site is a coherence of its ecological structures and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of the species for which it was classified."

5.442 EC Guidance has also discussed the concept of integrity: "The integrity of the site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives." It follows that if the competent authority were to conclude that the conservation objectives of the SPA are likely

to be adversely affected by the development, it follows that there would be an adverse effect on the integrity of the site.

5.443 However, if the judgement of the conclusions of the assessment for the implications of the protected site were to be based on whether it had been established that the conservation objectives had been adversely affected, that approach would set the bar too low since it implies that what is required is that the decision maker in determining whether to give approval or consent to a plan or project is required to make a determination on whether there will be an adverse effect on site integrity before declining to give consent etc. to the plan or project. In fact, the bar is set much higher so far as securing the required approval or consent concerned. It is so set in order to secure that the aims of the Habitats Directive are met with respect to Natura 2000 sites including SPAs and the obligations on member states imposed by articles 6(2) to 6(4), the objectives of the Habitats Directive and the context in which SPAs are identified and protected by article 4 of the Birds Directive together provide the conservation focussed context in which appropriate assessments must be undertaken. In order for a consent or approval to be given for a development which will have significant adverse effect(s) on a protected site, where such plan or project is not directly connected with or necessary to the management of the site, the competent authority must be 'certain' beyond reasonable doubt based on the best scientific evidence available that the significant effects of the plan or project concerned are such as will not affect the integrity of the site in terms of its conservation objectives.

5.444 Integrity is also discussed in Sweetman, where was stated: "a plan or project not directly connected with or necessary to the management of a site will adversely affect the integrity of that site if it is liable to prevent the lasting preservation of the constitutive characteristics of the site that are connected to the presence of a priority natural habitat whose conservation was the objective justifying the designation of the site in the list of SCIs, in accordance with the Directive. The precautionary principle should be applied for the purposes of that appraisal."

5.445 In this context, it should be noted that Sweetman was a case that was concerned with an SAC rather than an SPA. However, the principles of the approach in determining whether it has been established to the requisite standard of proof required that the integrity of the site would not be adversely affected are the same whether an application is concerned wholly with an SAC or wholly with an SPA or a combination of different forms of Natura 2000 sites.

5.446 As discussed above, the obligations on Member States in terms of the first sentence of Article 4(4) of the Birds Directive are those contained in Articles 6(2) to 6(4) of the Habitats Directive and the approach to integrity of a site should not be substantively different as between SACs and SPAs if, as the preamble to the Habitats Directive requires they are both to be part of "the coherent European ecological framework".

5.447 In the context of a plan or project which would have a significant effect on a habitat type which was a priority natural habitat of a SAC, having carried out the appropriate assessment of the plan's or project's implications for the site, if the relevant national authority was to conclude that the plan or project would lead to the lasting and irreparable loss of the whole or part of a priority natural habitat whose conservation was the objective that justified the designation of the site, then the view should be taken by that national authority that such a plan or project would adversely affect the integrity of the site. It follows that in those circumstances the relevant plan or project cannot be authorised having regard

to the provisions of Article 6(3) of the Habitats Directive. It was this analysis which led to the conclusion in paragraph 48 of the judgement in *Sweetman* referred to above.

5.448 Whilst there is no set format for presenting the appropriate assessment paragraph 44 of the judgement in *Sweetman* requires that: "it cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on the protected site concerned (see, to this effect, Case C-40/09 Commission v Spain, paragraph 100 and the case-law cited)."

5.449 In the case of the Caithness and Sutherland Peatlands SPA, if the Scottish Ministers, having carried out the appropriate assessment, were to conclude that they could not be 'certain' Strathy South would not cause or contribute to the deterioration of the habitats of the qualifying species of the SPA and/or would not lead to the significant disturbance of any of the qualifying species of the SPA and/or would not cause or contribute to any one or more of the five bullet points in (b) of the conservation objectives not being maintained in the long term, then they cannot be satisfied to the requisite degree of scientific certainty that Strathy South would not adversely affect the integrity of the SPA and the application for section 36 consent and associated application for deemed planning permission must be refused. In carrying out the assessment required by article 6(3) of the Habitats Directive the decision maker is required at all stages to apply a strictly precautionary approach so that any doubt is to be resolved in favour of the fulfilment of the conservation objectives and the conservation interests of the protected sites generally. This is discussed in more detail below in the context of the case law.

Bagmoor and red-throated divers at Strathy South

5.450 Applying this approach to adverse effect on integrity of the site in Bagmoor, the Inner House observed at paragraph [53] of the judgment that the Reporter had made a finding that disturbance and displacement of eagles utilising the area of the SPA could not be ruled out and that this could lead to the abandonment of territory. Any such disturbance and/or displacement was sufficient to constitute an adverse effect on the integrity of the SPA in terms of its conservation objectives and the absence of the required degree of certainty of no adverse effect on integrity meant that the application must be refused.

5.451 The reporter's task, as described by the Inner House in paragraph 51 in Bagmoor, which he was required to undertake: involved recommending approval only if, in light of the best scientific knowledge, he could be "certain", that the plan would not adversely affect the SPA's integrity. That could only be so if "no reasonably scientific doubt remained" (Waddenzee (supra) at para 61). In these circumstances, it was sufficient for the Reporter to find that the evidence left open the possibility that a wind farm at Stacain would lead to abandonment of the GF1 territory (i.e. the permanent loss of one pair of eagles). He did not require to resolve every aspect of the evidence or every subsidiary issue".

5.452 At paragraph 54 of the judgment, the Court observed that the consequences of loss of an area of foraging territory on a particular scale were not certain; however they did not need to be certain applying the correct approach as set out in paragraph 51 of the judgment and quoted in the preceding paragraph.

5.453 As with red-throated diver in the case of Strathy South, the primary issue, as observed by the Court at paragraph 55 in Bagmoor, was not the risk of collision of the

eagles with elements of the proposed wind farm infrastructure but rather, as was confirmed by the 99% avoidance rate (the rate now to be applied in relation to red-throated diver), that eagles will avoid wind farms, as will red-throated divers, not simply by not flying through them but by keeping away from them completely, described in Bagmoor at paragraph 55 as "giving it a wide berth".

5.454 The identified effects on red-throated diver from the construction of wind farms and the interrelationship with their preferred habitat is discussed below. However, for now, it is sufficient to observe that disruption of flight patterns on the part of red-throated divers resulting from the construction of the Strathy South Wind Farm would constitute a significant adverse effect relative to the conservation objectives of the SPA and that it has not been established beyond reasonable doubt on the best scientific knowledge, i.e. it is not 'certain' applying the precautionary principle, that even this one aspect of the disruption and disturbance to red-throated divers would not have an adverse effect on the integrity of the SPA in view of its conservation objectives. In fact, the evidence demonstrates further and more extensive disruption and disturbance to the species including the likelihood that specific currently used nesting sites would no longer be used and that historically used nesting sites will no longer be available for use because the habitat will no longer be conducive to flying, foraging and nesting of red-throated diver. It is likely that red-throated divers would no longer nest or indeed use any habitat within a distance of up to two kilometres of a turbine if the proposal proceeds. It is not necessary for refusal of the application to be the result of the appropriate assessment for it to be established to any evidential standard that certain adverse effects on the integrity of the SPA would occur having regard to its conservation objectives. The evidence that red-throated divers avoid wind farms and particularly substantial wind farms such as that proposed at Strathy South, is irrefutable and is essentially accepted. Red-throated divers from the SPA currently utilise the area comprising the development site and the area of the SPA surrounding the development site for a number of purposes. This includes flying through it, across it, to points within it and nesting in it. The extent of flying through, use and overflying of it by red-throated divers from the SPA is clear from figures A 1.1.34, A11.1.37, A11.1.40 and A11.1.4343²⁵⁰.

The position at Strathy South as regards the red-throated diver qualifying species and conservation objectives has a number of similar considerations for the purposes of site integrity with those which were present at the proposed development site in Bagmoor with respect to the anticipated disturbance and displacement of golden eagles.

5.455 The Scottish Ministers should conclude on these bases that it has not been ascertained to the requisite standard of scientific certainty that the Strathy South plan or project will not adversely affect the integrity of the Caithness and Sutherland Peatlands SPA having regard to its conservation objectives so far as the red-throated diver qualifying interest is concerned. This is clear even before consideration of the position in respect of greenshank or the more in-depth analysis of the evidence in relation to red-throated divers set out below.

Period of assessment of implications for integrity

²⁵⁰ ES Addendum technical appendices. [CD 4.4]

5.456 The appropriate assessment requires to take place in the context of Scottish Planning Policy 2014 paragraph 170 which is to the effect that areas for wind farms must be considered suitable for such use "in perpetuity". SPP paragraph 207 makes express provision for the requirement of an "appropriate assessment" to ascertain "that there will be no adverse effect on the integrity of the site". In considering site integrity and adverse effects, it is a long term view that requires to be taken having regard to the terms of the conservation objectives. That long term view for the purposes of a wind farm at the proposed location is "perpetuity". In any case even if the period for consideration of effects is limited to 30 years being the period of development proposed for this particular proposed wind farm it is clear that all of the anticipated effects would have manifested themselves during the period of the proposed development.

5.457 The context in which an appropriate assessment takes place informs what must be done in carrying out the assessment and the approach to "certainty" of outcomes.

5.458 This issue, the scientific quality of the evidence required to inform the assessment was discussed in the Cairngorms Campaign and Others v The Cairngorms National Park Authority in the Outer House at [2012] CSOH 153 and in the Inner House at 2014 S.C.37.44.

5.459 The appropriate assessment in the Cairngorms case was required to be undertaken at the stage of adoption of a local plan and the question arose as to the appropriate methodology for an appropriate settlement [sic] in those circumstances and the requisite "certainty" of outcomes. The relevant authorities are discussed at paragraph 64 in the Inner House judgment noting that an appropriate assessment carried out at a local plan stage was being undertaken at a time when there was no consideration of approving a potentially damaging plan or project. The Inner House went on to say: "Thus the level of detail required will be greater at the detailed planning permission stage than at the local plan stage. There is no obligation (established either in case law or in other general guidance) to assess broadly at the local plan stage whether or not a particular housing allocation would pass the Habitats Test."

5.460 In the case of Strathy South, the appropriate assessment is required to be undertaken by Scottish Ministers to consider significant adverse effects and effect on site integrity at the stage of the consideration of approval of a specific development and where the effects will endure on an effectively indefinite and permanent basis. This informs the precautionary approach which must be applied for the purposes of the appraisal. This is a once and for all decision, which is a factor to be taken into account in applying the precautionary principle, in assessing the adequacy and quality of the scientific evidence, and in assessing whether the Scottish Ministers can be 'certain' that what is proposed at Strathy South would not adversely affect the integrity of the SPA having regard to its conservation objectives and in light of the obligations imposed on it by the first sentence of Article 4(4) of the Birds Directive in terms of Articles 6(2) to (4) of the Habitats Directive.

The Precautionary Approach

5.461 The correct approach to be applied, having regard to the European cases referred to above, in circumstances where an appropriate assessment was required in circumstances where both a SAC and a SPA were in relatively close proximity to an application site was the subject of consideration in the case of Smyth v The Secretary of State for Communities and Local Government [2015] EWCA Civ 174.45. The above case involved an appeal from

the High Court of Justice to the Court of Appeal (Civil Division) where Lord Justice Sales gave the judgment with all members of the Court concurring.

5.462 The development site was close to the Exe Estuary Special Protection Area which is also a SSSI and the SPA incorporated the Dawlish Warren Special Area of Conservation. The planning authority had refused planning permission for the development for reasons which were unrelated to the Habitats Directive but in so doing had carried out a "screening assessment" which had concluded that the development would have no significant adverse impact on either the SPA or the SAC. Natural England, the relevant nature conservation body, had endorsed this assessment. The refusal to grant planning permission was appealed and the Inspector was persuaded by the assessments undertaken and concluded that there would be no significant harm to the SPA or the SAC associated with the implementation of the development.

5.463 At paragraphs 57, 58 and 59 of the Court of Appeal judgment, there is extensive quotation from the Opinion of AG Kokott in *Waddenzee* and at paragraph [60] of the judgment, the Court of Appeal then quotes from the judgment of the Court of Justice in *Waddenzee*.

5.464 Paragraph 61 of the Court of Appeal the judgment states: "The strict precautionary approach in the *Waddenzee* case was followed and again emphasised in [Sweetman]. AG Sharpston explained the "very low" threshold under the first limb of Article 6(3) [Habitats Directive]: paras. 45-49 of her Opinion. "In case of doubt" whether there may be significant effects on a particular site, an appropriate assessment is required (para. 47). The CJEU (Third Chamber) in its Judgment did not indicate any doubt as to the correctness of this approach. Like the Advocate General, it emphasised that Article 6 should be construed as a coherent whole (para. 32 of the Judgment); that the competent national authority should only authorise a plan or project pursuant to Article 6(3) where: - once all aspects of the plan or project have been identified which can, by themselves or in combination with other plans or projects, affect the conservation objectives of the site concerned, and in the light of the best scientific knowledge in the field" – they are "certain" that the plan or project will not have lasting adverse effects on the protected site, i.e., "where no reasonable scientific doubt remains as to the absence of such effects" (para. 40 of the judgment); and that the assessment under Article 6(3) "cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on the protected site concerned" (para. 44 of the judgment). See also, among a number of other authorities to similar effect, Case C-4311 0 *Nomarchiaki Aftodioikisi Aitoloakarnanias* [2013] Env LR 21, paras. [109] -[117]."

5.465 The importance of the precautionary approach required under Article 6(3) was restated under reference to *Commission v Ireland* [2007] ECR 1-10947 at paragraph 62 of the judgment. This requirement for a strict precautionary approach requiring to be adopted under Article 6 generally and Article 6(3) in particular is re-emphasised at paragraph 88 of the judgment.

5.466 Paragraph 61 of the judgment in *Smyth* taken together with the importance of the application of the precautionary approach required by Articles 6(2) to 6(4) which are to be read as being Member State obligations in terms of Article 4(4) of the Birds Directive provides a useful summary of the correct approach to carrying out the assessment procedure, including both the 'significant adverse effects' and 'adverse impacts on site integrity' stages required by Article 6(3) of the Habitats Directive and incorporated into UK

law in Regulation 48 of the Habitats Regulations. It enables the competent authority to identify all of the stages of the assessment procedure required by Article 6(3), how those stages interrelate, the relevance of the conservation objectives, the requirement for a strict precautionary approach and 'where the bar is properly set' in terms of the requisite standard of proof in determining whether it has been established that a plan or project will not have an adverse effect on the integrity of a protected site all having regard to the terms of the Directives and as interpreted by the jurisprudence of the European Court.

Construing conservation objectives

5.467 For an example of a circumstance in which the correct approach was required to be identified and was applied in substitution for the wrong approach of a competent authority, the Court of Appeal had to consider the issue of the conservation objectives of an SPA in its decision in The Royal Society for the Protection of Bird v The Secretary of State for Environment, Food and Rural Affairs, the BEA Systems (Operations) Limited, Natural England [2015] EWCA Civ 227. That case involved a judicial review of a decision by the Secretary of State to direct Natural England to give consent for the culling of populations of two species of gulls associated with an SPA.

5.468 At paragraph 6 of the judgment, the Court on the issue of the meaning of "integrity of the site" quotes with approval from "managing Natura 2000 sites" the European Commission publication.

5.469 At paragraph 7 of the judgment, the Court of Appeal confirmed that the Secretary of State had been correct when, in light of Sweetman and the Commission's guidance, he had proceeded on the basis that the conservation objectives of the SPA were "fundamental" to consideration of whether the cull sought would have (i) significant effects on the site and (ii) an adverse effect on the integrity of the site.

5.470 On the issue of the proper approach to the construction of conservation objectives, the Court of Appeal at paragraph 21 stated: "The 2011 and 2012 conservation objectives are not enactments, and should not be construed as such. However, it was common ground that they mean what they say, and do not mean what the Secretary of State, or for that matter, Natural England or the RSPB, might wish they had said. The conservation objectives must be read in a common sense way, and in context. They are conservation objectives for an area that has been classified as being of European significance under the Birds Directive."

5.471 The overarching or high level conservation objective for the Caithness and Sutherland Peatlands SPA is to avoid deterioration of the habitats of the qualifying species of the SPA or significant disturbance to the qualifying species thus ensuring that the integrity of the SPA is maintained.

Application to Strathy South of recent case law on disturbance with respect to a protected site

5.472 In the case of the red-throated diver qualifying interest and the area of the SPA surrounding the Strathy South development, if there is a risk from Strathy South of deterioration of the habitat for red-throated divers within the SPA, then it will not have been demonstrated with the requisite degree of certainty that the integrity of the SPA would not be adversely affected. Further, if, as a consequence of the construction and/or operation of

the proposed wind farm, there is a risk of disturbance to red-throated divers such that they, as with the eagles in the case of Bagmoor, may stay well away from the development site and/or from parts of the SPA surrounding the development site, when previously they did not, then it would not have been demonstrated with the requisite degree of certainty that the integrity of the SPA would not be adversely affected.

5.473 In respect of red-throated diver there is the risk that the construction and operation of the Strathy South wind farm may lead to a change in the distribution of red-throated diver within the SPA and/or disturbance of red-throated divers within the SPA (including disruption of flight routes), then each of the relevant conservation objectives would not be being maintained in the long term and it will not have been ascertained to the requisite degree of scientific certainty, having applied the required strictly precautionary approach, that there would not be an adverse effect or effects on the integrity of the SPA by the application proceeding.

5.474 The concept of "disturbance" of a species was discussed and explained in the RSPB case where in paragraph 32 it was stated that: "What is not permitted is disturbance which adversely affects the ability of the species to maintain itself on a long term basis on the site or ... which could contribute to the long term decline of the species on the site."

5.475 The site in this context is the Natura 2000 protected site, which in the case of Strathy South is the Caithness and Sutherland Peatlands SPA. However, that does not mean that such disturbance must necessarily arise from acts or omissions which take place in the area of the SPA for there to be such disturbance. In the case of Strathy South, there will be disturbance occasioned to red-throated diver within the SPA and as a consequence of activity within the parts of the development site that are not within the SPA. The particular context in Strathy South is that the turbine area of the proposed development site is entirely surrounded by the SPA. So far as construction and operation activity on the access track is concerned, then that would result in disturbance in the area of the SPA. So far as activity (in its most general sense) on the area of the development site is concerned, it would result in disturbance to the red-throated diver qualifying species of the SPA as a consequence of the nature of that activity and its proximity to the SPA. If an SPA bird uses part of the development site for nesting, foraging, overflying or whatever activity may be involved and that activity is in any way impacted by what happens or does not happen on the development site, then that is disturbance of the species. If the effect of the construction and operation of turbines is to cause breeding and non-breeding red-throated divers to cease to overfly the development site when they would otherwise have done so and/or to cease to use the area within the SPA, potentially up to a distance of two kilometres from any turbine within the development site, then that is disturbance of the qualifying species. All of this affects the ability of the qualifying species to maintain itself on a long term basis on the SPA and/or could contribute to the long term decline of the species on the protected site.

5.476 In RSPB it is noted that "what is not permitted is disturbance which adversely affects the ability of the species to maintain itself on a long term basis on the site or ... which could contribute to the long term decline of the species on the site" . It is the effect of the disturbance on the ability of the species to maintain itself on the site which is relevant to the effect on site integrity not where the act or omission which causes the disturbance occurs.

Regulation 48(3) (Regulation 61(5), 2010 Habitats Regulations)

5.477 This regulation requires, that for the purposes of the appropriate assessment which is required in the case of the Strathy South proposed development, the Scottish Ministers as the competent authority are required to consult the appropriate nature conservation body and have regard to any representations which it makes. SNH is the relevant nature conservation body in this case and it has made extensive representations in the form of responses to environmental information and in evidence to the public inquiry.

5.478 The role and standing of advice given by the appropriate national conservation body in the context of an appropriate assessment was considered in R.(on the application of Akestar) v The Department for Environment, Food and Rural Affairs [2010] EWHC 232 (admin) where J. Owen said at paragraph 112: "In making its appropriate assessment [competent authority] was not obliged to follow the advice given by Natural England; its duty was to have regard to it. But given Natural England's role as the appropriate national conservation body, [the competent authority] was in my judgement bound to accord considerable weight to its advice. and there had to be cogent and compelling reasons for departing from it. Unless [competent authority] was to come to the conclusion that the conclusion at which Natural England had arrived was simply wrong, it is difficult to see how it could come to the conclusion that no doubt remained as to whether there would be significant adverse effects on the protected sites."

5.479 In R. (on the application of Christopher Prideaux) v The Buckinghamshire County Council v SSC Environment UK Limited [2013] EWHC 105448 (admin) Lindblom J. at paragraph 116 said: "As the committee was well aware, by the time FCC's proposals became before it for a decision, the effects of the development on ecological interests, including European Protective Species, had been discussed over a long period, both with the County Council's officers and with Natural England. It is clear that the Committee gave considerable weight to the conclusions reached by Natural England. This is hardly surprising. It is exactly what one would expect. Natural England is the "appropriate nature conservation body" under the Regulations. Its views on issues relating to nature conservation deserve great weight. An authority may sensibly rely on those views. It is not bound to agree with them, but it would need cogent reasons from departing from them (see, for example, the judgement of Sullivan J., as he then was, in R. (Hart District Council) v Secretary of State for Communities and Local Government [2008] EWCH 1024 (admin); [2008] 2 P. & C.R. 16 and the judgement of Owen J in Akestar ...". See paragraph 4.2 above."

5.480 In paragraph 120 of Prideaux, the Court goes on to observe that in discharging its duty, Natural England could be expected to act in the public interest. In the case of the Strathy South application, SNH has acted in the public interest.

5.481 In giving its advice to Scottish Ministers in the form of responses to environmental information and in evidence before this Inquiry, SNH has exercised its functions relevant to nature conservation in terms of Regulation 3(1) of the Habitats Regulations. I, in making my report to Scottish Ministers, and the Scottish Ministers in undertaking the appropriate assessment and in determining whether to grant the application and deemed planning consent, are not required to accept the advice of SNH but there would need, quoting from Akestar, "to be cogent and compelling reasons for departing from it." As in the case of Prideaux, the views of SNH on issues relating to nature conservation in relation to the Strathy South proposed development deserve great weight. That weight requires to be

considered in the context in which the appropriate assessment which requires to be carried out in the case of this application arises.

5.482 The particular development under consideration here involves a very large array of substantial wind turbines of 135 metres in height (to blade tip) and 39 in number with a potential installed capacity of 133 MW in a part of the development site which is entirely surrounded by the SPA. The proposed access track which would carry all site construction and operations traffic is proposed to pass across the SPA. The most up to date and comprehensive group of policies applicable to such developments, SPP 2014, provides at paragraph 170 that areas for use for wind farms such as Strathy South must be suitable for use in perpetuity. SNH has, in the public interest and in discharging its statutory duty, come to the conclusion that with respect to the greenshank and red-throated diver qualifying interests of the SPA, separately in respect of each species, that it has not been demonstrated to the requisite degree of scientific certainty that the Strathy South plan an project, both individually and in combination with others under development, developed and proposed in the area, would not have an adverse effect on the integrity of the SPA having regard to its conservation objectives. Given the very limited degree of doubt which must remain for the requisite standard and quality of scientific proof to be achieved and given the requirement to apply the strictly precautionary approach, it was submitted that I and Scottish Ministers should follow SNH's advice in respect of each of the greenshank and red-throated diver qualifying interests and find that it has not been ascertained that Strathy South will not adversely affect the integrity of the Caithness and Sutherland Peatlands SPA.

5.483 With respect to the hen harrier qualifying interest if the conditions set out by SNH, in particular although not exclusively that related to sward management, are not imposed and implemented then I and Scottish Ministers should follow SNH's advice in respect that qualifying interest and find that it has not been ascertained to the requisite standard and quality of scientific proof that Strathy South will not adversely affect the integrity of the Caithness and Sutherland Peatlands SPA.

The Caithness and Sutherland Peatlands SPA

5.484 Regulation 9(A)(1) requires Scottish Ministers to give special protection area status to sites that they consider necessary to ensure that the objective of Regulation 9(A)(2) is attained. That objective is in respect of those sites within the United Kingdom territory which are most suitable in number and size for the conservation of the species in Annex I to the Birds Directive which naturally occur in that territory and the conservation of naturally occurring migratory species of birds not listed Annex I which naturally occur in that territory.

5.485 Greenshank, red-throated diver and hen harrier are qualifying species for the purposes of the Caithness & Sutherland Peatlands SPA which must be presumed to be a site which is suitable for those species.

5.486 Article 4(1) of the Birds Directive in identifying that the species mentioned in Annex I are to be the subject of "special conservation measures concerning their habitat" specifically provides that the purpose of those special conservation measures is "in order to ensure their survival and reproduction in their area of distribution". Accordingly, the purpose of the special conservation measures is not only with respect to the reproduction of those species but also their survival generally. There are four specific matters which are to be taken account of in defining what is to be taken account of in connection with those

special conservation measures concerning habitat of the species. There requires to be taken account of:

- (a) species in danger of extinction;
- (b) species vulnerable to specific changes in their habitat;
- (c) species considered rare because of small populations or restricted local distribution; and
- (d) other species requiring particular attention for reasons of the specific nature of their habitat.

5.487 Article 4(1) goes on to provide that trends and variations in population levels of relevant species "shall be taken into account as a background for evaluations".

5.488 The species that are so identified are to be afforded for conservation purposes protection within the territories of Member States that are most suitable "in number and size as special protection areas". The measures required by Article 4(1) are required to be applied with respect to "regularly occurring migratory species" which are not listed in Annex I having regard to the particular circumstances referenced in Article 4(2). It is relevant to observe that in the context of such regularly occurring migratory species, Member States are required to "pay particular attention to the protection of wetlands and particularly wetlands of international importance".

5.489 The interrelationship between the first sentence of Article 4(4) of the Birds Directive and Articles 6(2) to 6(4) of the Habitats Directive is fully discussed in section 2 above, but it is to be noted that the first sentence in Article 4(4) is not deleted. In this context, see the specific wording of Article 7 of the Habitats Directive. The result is that the criteria for the identification of SPAs set out in Articles 4(1) and 4(2) remain. It is the obligations incumbent on Member States to take appropriate steps with respect to those SPAs which are subject to the transposition of Articles 6(2) to 6(4) of the Habitats Directive into the first sentence of Article 4(4) of the Birds Directive.

5.490 In determining the application for consent etc. in respect of Strathy South, the issues of significant adverse effects and effect on site integrity should be considered in the context of the criteria for the establishment of the SPA set out in Articles 4(1) and 4(2) as well as the obligations transposed into Article 4(4) from Articles 6(2) to 6(4) of the Habitats Directive.

5.491 The Caithness and Sutherland Peatlands SPA is a "most suitable territory" for the conservation of its qualifying species. There are a range of factors applicable to the SPA that make it a most suitable territory. Those factors include that habitat for the qualifying species of the territory of the SPA comprising ecological features which make it particularly suitable for the survival and reproduction of those species. Anything which has the direct or indirect effect of compromising that habitat would carry with it the risk of an adverse effect on the integrity of the SPA. Further, any plan or project located in sufficient proximity to the SPA which would create a risk to the survival and reproduction of a qualifying species of the SPA would create a risk of an adverse effect on the integrity of the SPA.

5.492 That such risks would be a consequence, so far as the greenshank, red-throated diver and hen harrier qualifying species are concerned is, it was submitted, clear from the evidence. It was acknowledged that with respect to the hen harrier's qualifying interest, the risk can be sufficiently addressed by the conditions proposed such that an adverse effect on

integrity will not result by the development proceeding providing the conditions are imposed and are strictly adhered to by the developer.

5.493 However, in the case of the greenshank and red-throated diver qualifying interest this, as advised by SNH, is not the case. The risk is such that having regard to the criteria of adverse effect on the integrity of the SPA, there is not the requisite certainty that such integrity will not be adversely affected.

5.494 For example, with respect to greenshank, if there is a risk that there will be a material level of mortality to greenshank from the SPA or the progeny of greenshank from within the SPA that would otherwise nest and produce offspring within the SPA, then the first specific conservation objective will not be maintained in the long term and it will not have been ascertained to the requisite degree of scientific certainty, having applied the required strictly precautionary approach, that there will not be an adverse effect on the integrity of the SPA by Strathy South proceeding.

5.495 Since no issue arises for the purposes of Regulation 49 (Article 6(4) of the Habitats Directive) it follows that the Scottish Ministers must not agree to Strathy South because they cannot ascertain that the integrity of the SPA will not be adversely affected if the wind farm project proceeds.

Development Plan context

5.496 Whilst a determination by the Scottish Ministers that they could not ascertain, to the requisite degree of scientific certainty, that the integrity of the SPA and/or SAC would not be adversely affected by Strathy South would be sufficient to dispose of the application for section 36 consent and the associated deemed planning consent with a refusal of the application, the development plan context remains relevant and, in any event, must be taken account of, if the Scottish Ministers are able to ascertain that adverse affect on integrity will not result from Strathy South proceeding.

5.497 Reference is made to the agreed statement on planning policy amongst the applicants, THC and SNH which was submitted to the inquiry²⁵¹.

5.498 This policy agreement describes the detail of Strathy South in its current form comprising 39 wind turbines with a potential generating capacity of 133 MW with ground to blade tip heights of up to 135 metres.

5.499 The basis upon which THC objects to the application is set out in paragraphs 2.3 and 2.4 of the policy agreement and notes that the Committee took specific account of objections raised by SNH in finding that the proposal was contrary to the Highland-wide local development plan and in particular policies 57 (Natural, Built and Cultural Heritage) and 67 (Renewable Energy). The Committee's decision was reached after consideration of the Committee paper²⁵² and the basis for the objection was set out in THC's letter of objection of 16 June 2014²⁵³.

5.500 The relevant development plan policies are set out in paragraph 4.3 of the Planning Agreement noting that the most directly relevant policies are numbers 57 and 67.

²⁵¹ Statement of agreement on policy. [CD 10.1]

²⁵² THC North Planning Applications Committee 10 June 2014 – Report. [CD 6.1]

²⁵³ THC objection. [CD 6.2]

5.501 The planning agreement also identifies at paragraph 4.11 the relevant provisions within NPF3²⁵⁴, and SPP²⁵⁵.

5.502 Full detail on why it is considered by THC that Strathy South would be contrary to the referenced provisions of the development plan is set out in CD 6.1 and reference should be made to that document to explain why it is considered that the proposed plan and project would not be in accordance with the development plan.

5.503 Also relevant in a development plan policy context is Highland's Statutorily Protected Species (THC1)²⁵⁶, which is supplementary guidance on protected species adopted by THC and which supplements policy 58 of the HWDP. The guidance sets out the basis upon which THC will further the conservation of biodiversity and this includes at paragraph 2(1) the avoidance of damage to existing habitats from developments.

5.504 In the context of surveys, and relevant in relation to greenshank, is the advice on survey timing in section 8 to the effect that breeding birds are generally active from April until July.

5.505 Protected bird species are identified in Appendix 2 and these include greenshank, hen harrier and red-throated diver. Advice from SNH to Scottish Ministers in relation to Qualifying Species of the SPA, Significant Effects on and Integrity of the SPA.

Advice from SNH to Scottish Ministers in relation to qualifying species of the SPA, significant effects on, and the integrity of the SPA

5.506 Full details, including reference to relevant documents before the Inquiry, describing the advice given by SNH to Scottish Ministers in the form of representations in terms of Regulation 48(3) is set out in Dr Douse's topic paper SNH O-52²⁵⁷, his oral evidence at the Ornithology Inquiry session and in the SNH letter of 28 May 2015 to DPEA (SNH FEI 1²⁵⁸) responding to the further environmental information submitted by the applicants on 24 April 2015. FEI 1 is in detailed and specific terms responding in a full and detailed way to the applicant's final written material comprising environmental information in relation to red-throated diver at SSE_11.51, 11 .55, 11 .58 and 11.133, greenshank at SSE_11.51, 11.52, 11.55, 11 .56, 11.60 and 11.133 and hen harrier at SSE 11.60 (as regards habitat management generally and sward management in particular). These final submissions do not repeat what was said in SNH FEI 1 responding to this 2015 further environmental information and its terms are referred to comprising the advice of SNH to Scottish Ministers on the referenced documents. As regards SNH's own evaluation on the ornithological implications of the proposed development so far as the relevant qualifying species and conservation objectives of the Caithness and Sutherland Peatlands SPA are concerned, reference is made to the written material referenced in these closing submissions and summarised herein.

5.507 At each stage of the process of the consideration of the application and as environmental information and further environmental information was provided by the

²⁵⁴ National Planning Policy Framework 3. [CD 7.1]

²⁵⁵ Scottish Planning Policy (2014). [CD 7.2]

²⁵⁶ Highland Statutorily Protected Species Supplementary Guidance (2013). [THC 1]

²⁵⁷ SNH Topic Paper. [SNH 0-52]

²⁵⁸ SNH response to further environmental information (2015).

applicants, SNH provided responses to that material. Reference is made to SNH's scoping response letter of 17 September 2004 (SNH R-1²⁵⁹), SNH's response to the section 36 consultation of 25 September 2007 (SNH R-2²⁶⁰), SNH's further response to the section 36 consultation of 2 October 2007 (SNH R-3²⁶¹), SNH's response to the 2013 addendum consultation of 20 November 2013 (SNH R-4²⁶²) and SNH's response to the 2014 further environmental information of 8 January 2015 (SNH R-5²⁶³) and, as referred to above SNH FEI 1 in relation to the 2015 further environmental information.

5.508 At each stage in the process, SNH gave careful and thorough consideration to material provided by the applicants and as its concerns with respect to significant effects in relation to qualifying species of the SPA were addressed, SNH was able to limit its objection to the application. Ultimately, SNH concluded, that in relation to significant effects on only three of the SPA qualifying species; greenshank, red-throated diver and hen harrier, that concerns with respect to satisfying the requirements of the assessment procedure in relation to effect on site integrity remained. Further, in relation to hen harrier, SNH was able to advise Scottish Ministers that, provided the conditions agreed by SNH in relation to habitat and ornithological matters were attached to the deemed planning permission applied for by the applicants, Scottish Ministers could ascertain that there would not be an adverse effect on the integrity of the SPA

Greenshank

5.509 For some species of birds, proposed wind farms raise concerns in relation to collision mortality. The severity of such mortality concerns depend on the particular characteristics, in terms of their flight behaviour (e.g. territorial displays and reaction to predators) of the species and may be exacerbated where species are long lived, have low reproductive productivity, more slowly mature and in particular where species raise issues of concern from a conservation perspective.

5.510 In the case of greenshank, it has an annual survival rate of about 75% and a productivity of approximately 0.9 fledged chicks per pair (SNH O-34²⁶⁴, SNH O-36²⁶⁵ and SHN O-52, paragraph 14).

5.511 Paragraph 16 of SNH O-52 describes in detail the numerous factors which influence the risk of collision and one of the methodologies employed to "measure" such risk in the case of proposed wind farm developments known as the SNH collision risk model. This model is described in SNH O-52. The model is known colloquially as the Band Model.

5.512 Potential problems with and the limitations of the Band Model are described in paragraphs 16-26 of SNH O-52. Further issues are described in paragraphs 27 and 28.

5.513 A detailed description with appropriate textual references, of the breeding biology of greenshank is provided at paragraphs 125-133 of SNH O-25. Of particular relevance with respect to the current application is that greenshanks have a complex pattern of habitat use

²⁵⁹ SNH response dated 17 September 2004. [SNH R-1]

²⁶⁰ SNH response dated 25 September 2007. [SNH R-2]

²⁶¹ SNH response dated 2 October 2007. [SNH R-3]

²⁶² SNH response dated 20 November 2013. [SNH R-4]

²⁶³ SNH response dated 8 January 2015. [SNH R-5]

²⁶⁴ The Birds of the Western Palearctic. [SNH O-34]

²⁶⁵ Greenshanks (1951). [SNH O-36]

during the breeding session with different areas within territories being used for different purposes. In some parts of their breeding range, greenshank may occupy distinct territories at different stages in the breeding cycle. Often those areas can be a significant distance apart. For example, chick rearing areas may be up to 2 kilometres from nesting areas. Further, greenshank are well recognised as engaging in display flight behaviour and this is described in paragraph 130 of SNH O-52. Where there is a higher density of greenshank, as with the relevant part of the Caithness and Sutherland Peatlands SPA, more frequent display flights and flighting in response to the presence of neighbours is noted, see paragraph 131 of SNH O-52.

5.514 The population of greenshank within the SPA is discussed at paragraphs 134-137 of SNH O-52. In 1994/5 the population was estimated to be 256 pairs representing 18% of the GB breeding population. The mean density within the SPA was estimated as being 0.31 pairs per square kilometre. In 2009, the population was then estimated as 653 breeding pairs and it is considered that the increase from the original estimate is a reflection of different survey methods as opposed to any actual change in abundance within the SPA.

5.515 The population of greenshank in the area of the SPA around the Strathy South turbine site is discussed at paragraphs 138-142 of SNH O-52. It is considered that the most reliable survey data is that available for 2010 and 2012 for the reasons set out in those paragraphs.

5.516 In paragraph 141 there is a discussion of the relative importance of the area of the SPA around the turbine site noting that on the basis of the highest estimated population of 653 breeding greenshank within the Caithness and Sutherland SPA, this would equate to a density of 0.45 pairs per square kilometre. On one view, this was the most "optimistic" estimate of density since it depends on the survey methodology in 2009 being more accurate than that used in 1994/5.

5.517 In any event, the density based on the 2010 survey data for the area around the Strathy South turbine site is 0.86 pairs per square kilometre with comparable figures for 2012 suggesting a density of 0.75 pairs per square kilometre. The conclusion reached by SNH and advised to Scottish Ministers is that the area around the Strathy South turbine site is occupied by "high numbers of greenshank and the density is above average for the SPA as a whole and this area should therefore be considered as being high quality habitat for breeding greenshank."

5.518 The applicant produced data which shows that there are three other areas of the SPA, out of a total of 22 areas, where there are higher densities of greenshank SSE_11.56. For the purposes of the assessment required by Regulation 48, it hardly matters that there may be a very limited number of areas of higher density within the SPA. It cannot be disputed that the habitat within the SPA around the Strathy South turbine area is particularly suitable for greenshank for the purposes of mating, nesting and foraging. As already noted, the whole purpose of identification of SPA, such as the Caithness and Sutherland Peatlands SPA, is to secure areas of suitable habitat for species such as greenshank, wet heath and blanket bog being particularly significant in the case of wader species, so that the species is conserved.

5.519 The effects of wind turbines and associated infrastructure on greenshanks are discussed at paragraphs 143-157 of SNH O-52. It should be noted that the colonisation of

areas previously afforested by greenshank as a feature of the species was already identified at paragraph 137.

5.520 SNH advises at paragraph 145 that there is a significant risk of collision to greenshank with turbine infrastructure at rotor swept height. Whilst there is an absence of quantitative studies, this advice is clear and is based on well recognised patterns of behaviour on the part of greenshank which place them at potential risk of collision. This is discussed at paragraph 145 of SNH O-52 with more detail being contained in the modelling work commissioned by SNH at SNH O-44²⁶⁶. The conclusion of the detailed evaluation based on the published literature, including input from persons who have a specialist expertise with respect to greenshank, is that about a third of flight behaviour occurs in the collision risk zone of commercial wind turbines. It is noted that the very behaviour patterns exhibited by greenshank are those likely to reduce the perception by greenshank of the risk from static and moving objects such as turbine towers and turbine blades. Flights are likely to be fast, are often an immediate response to a threat or an inducement (mating behaviour) and the evaluation includes radar studies putting normal flight behaviour at about 12.3 metres per second, SNH O-42²⁶⁷. In the absence of any more detailed study, the default value of 98% is assumed for the avoidance rate. This is the approach advised by SNH by SNH O-7²⁶⁸ and is the avoidance rate adopted by the applicant for its own collision risk modelling.

5.521 It is also advised at paragraph 150 that there is limited information available on whether greenshank avoid wind farms as a behavioural response to their construction and operation. The applicant has provided, particularly at SSE_11.51²⁶⁹, informative and significant information from the Achany and Rosehall wind farm developments. The limited numbers of greenshank involved at these sites before, during and after construction makes it difficult to draw valid statistical conclusions on the projected impact of wind farms in their construction and operational phases on greenshank and in any event, the periods of operation to date are very limited. However, what can be reasonably concluded from the data is that there is no evidence that from a behavioural perspective, that greenshank avoid wind farms during their construction and operational phases. The evidence available has been fully evaluated both by the applicants and SNH. There is no material available from which it could be concluded that greenshank will avoid wind farms and therefore no material available from which it could be concluded with any degree of 'scientific certainty' that greenshank from the Caithness and Sutherland Peatlands SPA would avoid a wind farm at Strathy South during either its construction or operational phases. Indeed, the balance of the evidence is that the existence of a wind farm constructed or operational on the Strathy South site would inhibit the use of the site area by greenshank from the SPA. Further, the data is more consistent with a significant proportion of greenshank flights being at rotor swept height.

5.522 There are substantial differences between SNH and the applicants with respect to the reliability of the conclusions sought to be drawn by the applicants from the greenshank flight survey data contained in the environmental information. These differences are discussed in detail at paragraph 158-173 of SNH O-52. Whilst it is not in dispute that there is a significant quantity of flight survey data, what is in dispute is the reliability of any conclusions drawn from that data because of problems with data collection, analysis and

²⁶⁶ Greenshank Collision Mortality Estimates. [SNH O-44]

²⁶⁷ Flight speeds. [SNH O-42]

²⁶⁸ Use of avoidance rates in the SNH CRM. [SNH O-7]

²⁶⁹ RPS (2015a) A review of the combined findings of Achany and Rosehall Wind Farms bird monitoring. [SSE_11.51]

outputs and separately, the relevance of the outcomes drawn proposed by the applicants from the data given the significant habitat change which would occur within the turbine area of the proposed Strathy South development if the proposal proceeds.

5.523 The importance of the calculation of the visible area of the viewshed available to the observer from each vantage point used is described at paragraphs 161 and 162 of SNH O-52. The advice of SNH is that the areas of the viewsheds visible at relevant heights from the vantage points utilised in the collision risk calculations are incorrect because, in fact, the visibility is much more limited, in terms of visible area, than that utilised by the applicants in their collision risk calculations.

5.524 The issues in relation to viewshed area from each of the relevant vantage points was detailed in Dr Douse's evidence and ultimately it is a matter for the reporter to consider and advise, having visited each of the vantage points, whether there is a risk that erroneous calculation of viewshed areas visible at relevant heights from vantage points may have undermined the validity of the collision risk calculations advanced by the applicants.

5.525 The second issue relates to the timing of vantage survey work, both in respect to time of year in which the survey work was undertaken and the time of day in which the survey work was undertaken. Analysis of the data on vantage point surveys and their timing was undertaken during the course of the Ornithology inquiry sessions. It was identified that during the years in which vantage point surveys were undertaken, there was often none, and in other cases, only very limited survey work undertaken in the early part of the season when the great majority of display flight activity would take place and further, that there was often none and in some cases, only very limited survey work undertaken during the early part of the day which is when most of the display and other flight activity by greenshank and other waders will take place.

5.526 The advice of SNH is that this materially undermines the reliability of the conclusion of the outcomes proposed by the applicants from the survey data. SNH considers that much more survey data was required to be obtained in the early parts of each of the seasons in which survey work was undertaken and that during those times of the year, there should have been a much greater preponderance of surveys undertaken in the period following dawn. That would have resulted in more reliable and comprehensive data being input into the collision risk calculation. SNH considers that the reliability of the outcomes suggested on behalf of the applicants are seriously compromised by the temporal limitations in the survey data. Dr Grant, in response to a question from the reporter, acknowledged that within the flight activity data presented by the applicants there was "a paucity of data" in April and early in the morning.

5.527 The third area of dispute in relation to the data relates to the problems associated with the calculation of the distance correction required to be included in the collision risk calculation which results from the inevitable under-recording of flights within the more distant parts of the viewshed from the vantage point observer. A particular difficulty in relation to Strathy South is that there is agreed to be a significant unreliability in relation to the data for flight activity close to the vantage points (the 0-250 metre distance band). SNH considers that this is most likely a consequence of observers at vantage points having disturbed greenshank when surveys are taking place, whereas the applicants consider that the more likely explanation is that the anomalies in the data are as a result of the specific habitat in the areas close to vantage points being habitat that is not attractive to greenshank. There is no logical reason why habitat characteristics at any point on the

ground should determine where birds are likely to fly within their territories. No relationship has been demonstrated between the attractiveness of any habitat used by greenshank for foraging and/or nesting and their flying over it. It is apparent that greenshank utilise a complex pattern of areas within territories for different purposes and they will require to travel between a range of different habitats for different purposes, e.g. wetlands, including blanket bog, dry heath and pool systems. It is inevitable that this will require flying over habitat that will not be suitable for greenshank, for example to forage.

5.528 Ultimately, the reason for the absence of reliable data within the 0-250 metre distance band is much less important than the fact that there is unreliable data. If there had been reliable data on flight activity within that distance band, then that reliable data could have been utilised to calculate the distance correction factor required to be input into the collision risk calculation. The absence of that key reliable data means that the distance correction calculation cannot be carried out using the usual methodology. There is the further complication that in many cases there is no flight data whatsoever at the furthest distance band in many of the surveys see Table 4.2, SSE_11.52. The absence of such data has the biggest effects on the calculation of the corrected flight data and it is simply impossible to know whether this reflects an actual absence of flights at these distance bands or that flight activity was not observed.

5.529 To overcome this difficulty in the final version of calculation of collision risk by the applicants, they have utilised data from the Viking wind farm in relation to a different species of bird i.e. golden plover. The basis for use of that species is discussed by Dr Grant at paragraph 4.8 of SSE_11.52 and is based primarily on a consideration that golden plover are thought to be about the same size and weight as greenshank.

5.530 Dr Grant calculates revised correction factors for each of the distance bands based on observed flight activity in the 250-500 metre distance band being 39% of the true value (based on Viking golden plover data). SNH accept the derivation of the correction factors but continue to argue that the correction factors are applied to flight activity data (FAD) that is unreliable for reasons explained above. It is clear from Table 4.2 in SSE_11.52 that FAD values in the 1000-2000 metre distance band have a disproportionate effect on total FAD, but again, for reasons explained previously, including the forested nature of the habitat, many of these values are very low and in many cases zero. This would lead to a significant underestimate in calculated FAD.

5.531 The applicants updated habitat management plan at SSE_11.60 gives extensive detail on the changes that would result to the turbine area currently comprising the Strathy South forest if Strathy South proceeds. The forest would be entirely removed with the existing ride and pool complex areas within the forest being retained. The habitat management plan proposals were spoken to in oral evidence by Dr Dargie and Dr Zisman for the applicants under reference to SSE_11.60. There is a degree of inconsistency within the applicants' evidence over the timing as to when areas within the current forest will become areas of blanket bog. Broadly, the intention of the habitat management plan is that some 80% of the current forest area will be returned to active blanket bog, 10% dry heath (Dr. Zisman suggested 5% -10% in his evidence) with the remaining 10% perhaps being areas of brash which would be left as habitat particularly suitable for hen harriers but also used by greenshank and an allowance for uncertainty of a small % at the margins. In any event, the brash area is considered to be outwith the turbine area in the north west of the currently forested area. The precise percentage of the current forest area which would be blanket bog may be greater than 80%. Some parts of the forest area, particularly the rides

and pool complexes, already constitute blanket bog and other areas will readily be converted into blanket bog. Timing will depend on some extent on the forest clearance methodology that is undertaken, the depth of peat and the current ground conditions. Estimates of the time period for commencement of the development to conversion of 80% of the area into blanket bog vary from between 10 years and 20 years.

5.532 The applicants are not criticised for this degree of uncertainty as to timing. This will necessarily be a variable process which may take place more quickly or over a longer period depending on conditions. At some point during the first 20 years of the development period it is anticipated that the 80% figure will be achieved in relation to blanket bog and some 10% will be dry heath.

5.533 Dr Zisman explicitly acknowledged in cross examination (i) that in designing the Habitat Management Plan the applicant was proposing to create a habitat for the previously afforested area which would be attractive to greenshank; (ii) that other than the existing wet areas of the forest, greenshank currently do not make extensive use of the forest area; (iii) creation of greenshank suitable habitat would be expected to result in greater density of greenshank; (iv) the habitat proposed to be created in the turbine area would be broadly equivalent to that which currently surrounds the site which has the fourth highest density of greenshank in the SPA; (v) by 15 to 20 years 80% of the whole of the current afforested area will be blanket bog; and (vi) the created habitat within the previously afforested area will become more attractive to greenshank over time. In response to a question from the reporter asking whether 20 years down the line would the area subject to the habitat Management Plan be "ideal habitat" for greenshank Dr Zisman replied in the affirmative and that therefore there would be collision risk. It is submitted that such was no more than a recognition of the inevitable consequence of the Habitat Management Plan which is proposed to be implemented and which, if consent is granted, will be a condition of the deemed planning condition.

5.534 Greenshanks already use the forest area for nesting and for other purposes, although the density is much less than in the much more suitable habitat in the parts of the SPA surrounding the proposed turbine area. It is apparent from SNH 0-16 that prior to the planting of the Strathy South forest, as with the other commercial forests in the Flow Country, the area which is now a forest supported a large number of pairs of greenshank. Some 130 breeding pairs or some 12% of the national breeding population was 'lost' as a consequence of afforestation of parts of the Flow Country. Strathy South Forest is an example of this afforestation. SNH advises that it is very likely, or at least there is a significant risk, that greenshank from the SPA would make increased use of the previously afforested area of Strathy South from inception of the development process with progeny of the existing greenshank within the SPA coming to populate the proposed turbine area of Strathy South as the habitat becomes more suitable for greenshank. SNH advises that the density of greenshank nesting and otherwise using the turbine area once the Habitat Management Plan is fully given effect to it is likely to be the similar to the density using the same suitable habitats for greenshank for the same purposes in the area of the SPA surrounding the proposed turbine area.

5.535 That this was a clear risk associated with the proposed development and the intended habitat management arrangements and that increased mortality of greenshank associated with the SPA resulting from collisions of those greenshank with wind farm infrastructure was explicitly recognised by the applicants in the ES addendum - July 2013 -

Technical Appendices at paragraph 3.3.2 of Technical Appendix 11.3²⁷⁰. Technical Appendix 11.3 was concerned with the effects of distance on recorded wader flight activity and potential consequences for collision risk estimates.

5.536 As discussed at paragraph 2.2 of Technical Appendix 11.3, it was necessary to apply correction factors due to reduced detectability of flights at greater distances from viewpoint locations. This correction was initially undertaken by utilising the flight activity data in the 0-500 metre distance band and applying that data to the other distance bands so that a correction factor was included in the calculation to adjust for that reduced detectability of flights at greater distances. In later refinements to the distance correction methodology, which post-dated Technical Appendix 11.3, this distance band was split into 0-250 metre and 250-500 metre bands.

5.537 The implications for the estimation of collision risk are dealt with at section 3 of Technical Appendix 11.3 with the implications for the estimation of collision risk being discussed at paragraphs 3.3.1 and 3.3.2.

5.538 At that stage in the process of the application, the applicants either did not recognise that there was an issue with the reliability of flight activity data within the 0-500 metre distance band, or if they did identify the issue, they chose to disregard it, and proceeded to use all of the flight activity data within that distance band to undertake the essential distance correction calculation in relation to the two further distance bands 500-999 and 1000-2000 metres.

5.539 In any event, in relation to the habitat change which will result from the development proceeding, the discussion of the issue and the approach of the applicants is set out in paragraph 3.3.2. The importance of the issue warrants the quotation of the relevant text in full: "Given the relatively small size of greenshank and golden plover, together with the fact that during the breeding season many flights of these species are of single birds as opposed to flocks, it seems probable that variation in the detectability of flights is a major cause of the observed decline of recorded flight activity with increasing distance from the VP location (sic). However, as detailed in the Introduction, other factors such as habitat may vary with distance from VP locations, and these may also contribute to the observed relationship. An examination of the flight activity survey viewsheds in relation to habitat suggests that the proportion of afforested land within the viewsheds increases with distance from the respective VP locations (see Figures A11.1.13 - A11.1.19 in Technical Appendix A11.1. Breeding greenshank and golden plover will be scarce or absent within a forested land, so that flight activity by these species will be lower over such habitat and this is likely to have contributed to the lower flight activity recorded at greater distances from VP locations. The analyses undertaken for this report did not consider such variation in habitat (or indeed in the breeding density of the two species) and the correction applied to the flight activity data assumes that the distance/effect is due solely to a decline in the detectability of flights. Therefore, the corrections applied to the flight activity data are likely to result in over-estimation of overall flight activity. Forest clearance is planned to occur as part of the proposed Strathy South development and this may cause increases in the density of greenshank and golden plover on the site (due to an increase in the open-ground habitat preferred by these species). A consequence of this is that the (uncorrected) collision risk estimates produced from the survey data may not be applicable because they are derived from a situation in which these species are less abundant than they would be following wind

²⁷⁰ ES Addendum technical appendices. [CD 4.4]

farm construction. However, the re-estimated collision estimates produced in this report assume that flight activity levels throughout the entire viewshed are equivalent to those recorded within 0.5km of the VP location [sic], where the extent of afforested land is already relatively low. Given this, it is likely that the re-estimated collision risk estimates produced in this report would be applicable to a situation in which greenshank and golden plover abundance increased at the Strathy South site as a result of forest clearance."

5.540 From this text, the following can be drawn as being the position of the applicant:

- a) That distance from viewpoints was a major cause of the observed decline in recorded flight activity the further that flight activity was from viewpoint locations.
- b) Other factors such as habitat may also have had a role in the reduced flight detectability at distance.
- c) In the habitat position that existed at the time that the flight surveys were undertaken, flight activity of breeding greenshank would be expected to be scarce or absent within afforested land.
- d) The analysis undertaken by the applicants at the stage of the 2013 addendum as regards collision risk in respect of greenshank did not consider, or for that matter take into account in any way, variation in habitat. It is observed that the collision risk analysis undertaken in 2014 and later by Dr Grant in SSE_11.52 also did not and cannot adequately adjust for variation in habitat.
- e) As a consequence of the absence of any adjustment to take account of variation in habitat, there was likely to be an overestimation in overall flight activity once distance corrections derived from the 0-500 metre distance band were applied.
- f) Increases of the density of greenshank within the previously afforested area are a likely consequence of the conversion of that previously afforested area into an open ground habitat which will be more suitable for greenshank.
- g) As a consequence of that increase in density of greenshank resulting from a change in habitat, the collision risk estimates produced by the applicants may no longer be applicable because they were derived from a period when greenshank were less abundant than they are likely to be after wind farm construction.
- h) Notwithstanding that anticipated underestimation of collision risk, there would be an implicit adjustment built into the calculation of collision risk by use for distance correction of the data from the 0-500 metre distance band which had a relatively lower level of afforestation.
- i) As a result of the use of that 0-500 metre data for the distance correction calculation, the re-estimated collision risk estimates produced in Appendix 11.3 would be applicable to a situation in which greenshank abundance increased within the previously afforested land as a result of clearance of the forest.

5.541 Accordingly, it is clear that at the time of the production of the 2013 addendum that the applicants were fully aware that there was an issue to be addressed with respect to the implications of forest clearance and associated habitat improvement so far as the collision risk estimates were concerned in respect of greenshank. The applicants chose then, and continue to choose in the 2014 and 2015 material, not to make any explicit adjustment to address this issue. It is inexplicable that they would not do so given that it is apparent that it is likely, perhaps even certain, at least in the appropriate assessment sense and having regard to the evidence of Dr Zisman, that greenshank densities would increase as the habitat within the proposed turbine area improves ultimately to a condition where it is eminently suitable as greenshank habitat when it becomes some 80% blanket bog with around 10% dry heath. It is observed that the turbine area already comprises pool complex

areas which have been preserved notwithstanding the afforestation, an extensive complex of rides which are already blanket bog and there are substantial pool complexes in the areas surrounding the proposed turbine area.

5.542 As at 2013, the applicants suggested that they had made an effective implicit adjustment for the effects on collision risk estimates of the improvement of habitat by use of the flight activity data from the 0-500 metre distance band out from the various diver vantage points, a portion of which was not afforested.

5.543 In fact, as the figures from document CD 4.4 (A 11.1.15, A 11.1.17 and A 11.1.19) demonstrate, it is primarily within the 0-250 metre distance band that there are areas at 20 metre height out from viewpoints which are not over land which is afforested.

5.544 By the time of Dr Grant's further re-estimations in 2015 as set out in SSE_11.52, the use of the 0-250 metre flight activity data was deliberately omitted from the calculation. Given the admitted unreliability of that data, whatever the reason for that unreliability might be, for distance correction and representative flight activity purposes, the practical consequence was that the only implicit adjustment that had previously been made to take account of the results on greenshank flight density as a consequence of different habitats had been very largely excluded from the calculation. This effective exclusion is nowhere addressed in the 2014 further environmental information (CD 5.1 and CD 5.2) or in SSE_11.52, but the omission is a highly significant one so far as the issue of the 'certainty' of adverse effects on the integrity of the SPA are concerned. The importance of this issue does not lie in the decision to exclude the 0-250 metre band data from the distance correction calculation, SNH had asserted that the data was unreliable for distance correction calculation purposes and belatedly the applicant agreed. Nor does it lie in whether the 0-250 metre data would have been reliable for the purposes of an implicit adjustment to the rest of the flight data based on habitat change, in fact the data was as unreliable for that purpose as it was for the distance correction calculation. Nor does it lie in whether this kind of implicit correction would have been an appropriate and reliable way of adjusting the collected data for future changes in habitat and greenshank density, in fact it would not but the issue is academic since the use of the 0-250 metre data was abandoned as was the claimed implicit adjustment. The importance lies in respect that in 2013 the applicants had explicitly recognised "collision risk estimates produced from the survey data may not be applicable" (i.e. all of the flight survey data collected and presented in the environmental information and relied on by the applicant for its collision risk estimates) because its data is all collected in a situation in which there has been no habitat change and no resulting change in greenshank density within the currently afforested area.

5.545 The consequence of all of this is that the applicants, in effect, present no estimation of the collision risk to greenshank that might be expected in the case of a site which had previously been afforested and which would be deforested and subject to extensive habitat change and further, produce no estimation of the collision risk in relation to greenshank where blanket bog and dry heath had been re-established on the turbine site in substitution for the forest. In effect, the applicants do not provide Scottish Ministers with material from which the Scottish Ministers could reach conclusions with regard to certainty of effect on integrity in relation to greenshank at any point from deforestation during the construction phase through to site clearance; noting that for wind farm areas SPP 2014 at paragraph 207 requires that wind farm areas must be considered suitable for use as such in perpetuity. This omission from the material made available by the applicant is particularly surprising in circumstances where the "risk" of reliability of collision risk estimates

associated with habitat change had been expressly recognised by the applicant at ES addendum - July 2013 - Technical Appendices, CD 4.4, at paragraph 3.3.2 of Technical Appendix 11.3.

5.546 Dr Grant in his oral evidence to the inquiry confirmed that in the collision risk modelling and estimates with respect to greenshank which are now relied on by the applicant i.e. those in SSE_11.52 for the 39 turbine scheme there is no adjustment or allowance of any description made for the implications in terms of collision risk resulting from an increased density of greenshank using what is intended to become the turbine area after the habitat change intended by the applicant's Habitat Management Plan commences and becomes more established over time. The applicant's estimates of future collision risk over the 30 year period of construction, operation and decommissioning of Strathy South wind farm depend entirely on flight activity records of greenshank within the 250-2000 metre distance bands over what is currently almost wholly afforested land, accepted by all parties as being generally unsuitable habitat for greenshank, adjusted for distance correction only by data collected for a different species (golden plover) in a wholly different location and environment.

5.547 Having regard to all of the deficiencies identified in the flight activity data for greenshank on and around the Strathy South development site and the analysis and assessment of that data which has been presented by the applicant, having regard to the precautionary approach, the reporter and Scottish Ministers should not be satisfied that the risks of collision of greenshank with Strathy South wind farm infrastructure over the period of the development presented by the applicant are a sufficiently reliable basis on which to make a judgment of 'certainty' of effect on SPA integrity having regard to this qualifying species and the site's conservation objectives.

5.548 In order to address the significant omissions from the scientific evidence available to the Inquiry and to Scottish Ministers in relation to greenshank and risk of mortality, SNH commissioned its own modelling of greenshank collision risk. This is discussed in paragraphs 174-182 of SNH O-52 and the report of that work is at SNH O-44.

5.549 What the modelling commissioned by SNH assumes is that the 39 turbine scheme as proposed by the applicants has been constructed and that secondly the habitat change intended by the applicants' habitat management plan has been achieved. As the applicant's 2013 Technical Appendix 11 .3 recognised, the density of greenshank over afforested areas would not be representative of the density of greenshank in areas which were not afforested. It does not assist to any extent in modelling for a changed habitat to use data collected over the existing and very different habitat which is largely unsuitable for greenshank. Theoretically it might have been possible to make some use of the data in the 0-250 metre distance band, but for reasons already discussed, that data is acknowledged as being unreliable and could not be utilised as a proxy for the flight activity data that might reasonably be expected to be collected in a situation in which there had been the habitat change proposed within the turbine area of the proposed Strathy South development.

5.550 The SNH commissioned modelling adopts assumptions as regards greenshank behaviour derived from literature and from specialists including Professor Des Thompson as discussed in detail in SNH O-44 and SNH O-52. It adopts a model of greenshank territory dispersion within and surrounding the proposed turbine envelope that SNH considers to be a reasoned and reasonable approximation to the likely territory dispersion

after wind farm construction. The model calculates flight activity density (FAD) and uses this estimate of FAD as the basis for calculating the collision risk within the Band model. It utilises survey data produced by the applicants in relation to the area of the SPA proximate to the proposed turbine area. The model uses the recommended default avoidance rate of 98% when calculating the projected mortality rates based on three scenarios of low activity value, average activity value and high activity value.

5.551 With the 98% avoidance rates, the estimated mortality where greenshank density within the turbine area had achieved the same value as the density in the area of the SPA around the turbine area ranged from 10 birds per annum to about 19 birds per annum, with an average of 13 birds per annum. If a higher avoidance rate of 99% is utilised, then the respective figures vary from 5 birds per annum up to 9 birds per annum with an average of 6.5 birds per annum. This is set out in detail in SNH O-44 and summarised at paragraph 179 of SNH O-52.

5.552 The Natura assessment undertaken by SNH based on the mortality levels resulting from the works set out in SNH O-44 is described at paragraphs 186-189 and the assessment of impacts on the conservation objectives for the Caithness and Sutherland SPA is discussed at paragraphs 191-209, including the table between 208 and 209 of SNH O-52.

5.553 Mortality rates estimated to arise from collision risk at the levels set out in SNH0-44 and summarised in the relevant paragraphs of SNH 0-50 are considered by SNH as resulting in the conservation objective "population of the species as a viable component of the site) not being met".

5.554 If Scottish Ministers were to accept that conclusion, then it would be possible that Scottish Ministers could conclude that the proposed Strathy South wind farm would adversely affect the integrity of the Caithness and Sutherland Peatlands SPA. In fact, that would not be the correct approach because that is not what Article 6(3) of the Habitats Directive and paragraph 48(5) of the 1994 Regulations and the equivalent provision of the 2010 Habitats Regulations requires.

5.555 SNH's advice to Scottish Ministers is that they should conclude that it has not been ascertained beyond reasonable scientific doubt that Strathy South would not adversely affect the integrity of the Caithness and Sutherland Peatlands SPA having regard to the conservation objectives of the SPA and the mortalities and consequent population effects resulting from anticipated collision of greenshank with wind farm infrastructure. Such a conclusion necessarily results from each and all of the:

- unreliability of the flight data presented by the applicants and the assessment of that data in its environmental information
- absence of any collision risk estimates, or at least the absence of any reliable collision risk estimates, for greenshank where the habitat change proposed in the applicants' habitat management plan has taken place at each stage of that habitat management plan proceeding
- collision risk estimates provided by SNH and derived from the SNH commissioned greenshank collision risk modelling reported in SNH O-44 and summarised in the referenced paragraphs of SNH O-52 and consequent population effects.

5.556 For the Scottish Ministers not to be satisfied to the requisite degree of 'certainty' as regards adverse effect on integrity, the requisite degree of scientific doubt would arise from any one or more of the three considerations referenced in the immediately preceding paragraph.

Red-throated diver

5.557 As with greenshank, SNH has given extensive advice to Scottish Ministers in relation to the likely significant effects which the development would have on this Annex 1 qualifying species of the Caithness and Sutherland Peatlands SPA and why it cannot be ascertained that the development would not have an adverse effect on the integrity of the SPA having regard to those significant effects and the conservation objectives. The detail of the various documents in which the advice constituting representations may be found above.

5.558 Dr Douse's topic paper SNH O-52 provides full detail of the SNH position in respect of the species and the effects which the proposed Strathy South development would have on it. As well as the various responses to environmental information referred to above, account should also be taken of the submissions by SNH in response to the information provided at the Ornithology inquiry session in relation to a pair of red-throated divers apparently nesting close to the Strathy North wind farm which is currently under construction. These submissions were sent to DPEA on 2 July 2015.

5.559 The mechanisms by which displacement through disturbance of species of birds may occur as a consequence of the construction and operation of onshore wind farms is discussed and explained at paragraphs 19-26 of SNH O-52. In addition, direct habitat loss is discussed and explained in paragraph 27 with the same in respect of barrier effects at paragraph 28. This follows a more general description of the various effects on birds of the construction and operation of such wind farms in paragraphs 10-13.

5.560 The biology of red-throated diver is discussed and explained with appropriate textual references in paragraphs 38-44 of SNH O-52. In summary, they are relatively large birds and their breeding population is restricted to Scotland and Ireland, but they have a wider circum-polar distribution. The Scottish and Irish populations are at the southern edge of their breeding range with their distribution in Scotland largely restricted to the northern Isles, the Inner and Outer Hebrides and the western mainland of Scotland as far south as Argyll. They are generally found inland on fresh water bodies, although such breeding sites are predominantly within flight distance of the sea where the species generally obtain their food. However, some lochs/large lochans are also used as feeding sites if fish populations are supported. The lochans used for breeding sites vary from very small to fairly substantial and the breeding sites are generally found at open habitats (heather and moorland, blanket peatlands) but pairs will also nest on lochans and clearings in forested areas. The nesting of lochans in forested areas is more common throughout much of the northern European continental range of the species.

5.561 Red-throated divers winter at sea returning to breeding lochs/lochans in mid to late March. Eggs are generally laid in March, chicks hatching in June or early July where chicks are able to fly to the sea from August or early September. Critically, nests are situated on shorelines close to the water's edge. If clutches of eggs are lost early in the breeding season, the pair will typically re-lay so chicks may still be present into October. More than a single chick being fledged in a single season by a pair is unusual. Starvation, hypothermia arising from disturbance and predation can all adversely affect breeding success.

5.562 Both adults will contribute to feeding of chicks by regular commutes to the coast or to inshore waters being used for feeding. Young chicks are rarely left unattended, but from time to time, both adults may be absent as chicks grow. Up to seven foraging trips per adult per day is thought to be typical so a brood of two, with one ultimately being fledged, may require 14 round trips per day. There is a marked pattern in the timing of feeding flights with flight frequency being greater in the early morning and late afternoon and in the evening.

5.563 Breeding may take place from three years old, but may not start until birds are five years old. Immature and non-breeding adults will be present on or around the same inland water bodies as are used by breeding pairs. There is a marked behavioural practice of single adults searching around looking for suitable breeding lochans. This indicates that breeding locations are limited and that birds may defer breeding in order to acquire a high quality breeding site. Such effects are well recognised in other species of long lived birds. Red-throated divers are long lived birds with the oldest record of a ringed bird in the UK being 24 years. Hence red-throated divers have a high annual survival rate, a feature that is also associated with low annual breeding success. Studies in the Northern Isles show average breeding success of 0.6 chicks fledged per breeding pair per annum, SNH O-19²⁷¹.

5.564 Breeding success is heavily influenced by disturbance. Breeding divers in remote locations are more prone to be adversely affected by disturbance, though habituation to minor disturbance can also occur. Birds on small lochans are more prone to taking flight than birds on larger lochs. It is considered that human disturbance is a critical factor with (for example) interactions between anglers and recreational users of lochs. Weather also plays a part as nests at the water's edge are less likely to be swamped by wave action on smaller lochans.

5.565 Pairs of red-throated divers tend to be site faithful although localised movement between lochans in successive years is known. A study in Shetland, SNH O-20²⁷², shows that out of 24 adults, only six birds have moved during the study period, and, in all cases, this was to the nearest suitable loch/loch. It is observed that birds which have been hatched and raised on a particular lochan tended to return to the same area with males more likely to return close to their original site of hatching.

5.566 The above description of the species demonstrates its breeding and other behavioural features which would make it particularly susceptible to disturbance. Its rate of successful fledging is already low and it has very specific nesting site requirements. Essentially, its nests must be immediately adjacent to suitable lochs or lochans where it will not be disturbed and such suitable lochs or lochans must themselves be relatively close to feeding locations, generally but not exclusively the sea. If disturbance leading to loch/loch abandonment does occur it is highly significant for breeding pairs which are significantly site and area faithful. The importance of the habitats of the SPA around the Strathy South turbine site is clearly demonstrated by relative breeding densities discussed in paragraph 53 of SNH O-52. In 2010, the breeding density of this part of the SPA was approximately 0.07 confirmed pairs per square kilometre with further possible and unconfirmed pairs. The density for the SPA as a whole was only 0.03 pairs per square kilometre. The habitats available to red-throated diver, both within the Strathy South turbine area and in the area around the Strathy South wind farm are plainly critical for the

²⁷¹ 2006 SMP data for red-throated diver. [SNH 0-19]

²⁷² Natal dispersal and breeding site fidelity in red-throated divers. [SNH 0-20]

maintenance of the species within the SPA. The SPA habitats are precisely those which required protection by the establishment of an SPA, having regard to the terms of Articles 4(1) and 4(2) of the Birds Directive. The extensive use of these habitats and a variety of locations within these habitats is demonstrated by the historical material provided at SNH O-48²⁷³ and discussed in paragraphs 55-57 of SNH O-52.

5.567 Unlike the position in relation to greenshank, there is some information available in respect of prior and recent studies in relation to the effects of wind turbines and associated infrastructure on red-throated diver. This is discussed at paragraphs 58-65 of SNH O-52.

5.568 Red-throated divers are relatively large birds and have high wing loading which means that they use fast, flapping flight when moving between feeding areas and breeding lochans. Their manoeuvrability is limited and therefore one might assume that they would be a species particularly prone to collision risk with structures, particularly moving structures such as turbine blades. Red-throated divers typically take relatively direct flight lines to the sea for feeding from inland loch sites and therefore one might expect that a red-throated diver utilising an inland loch site and travelling to the sea would be at significant risk of collision were it required to fly through the turbine area of a wind farm on its usual route. In fact, there is very little evidence of collisions between red-throated divers and wind turbines. This may in part be due to the very limited overlap between typical red-throated diver habitat and wind turbine developments. However, good evidence has now been gathered which demonstrates an almost complete avoidance of wind farms by red-throated divers during construction and operational phases, including the cessation of breeding activity within the proximity of wind turbine developments. For substantial wind farm developments such as Strathy South, it would be appropriate to consider an avoidance distance from wind farms in terms of use of habitats for breeding and other purposes by red-throated divers of up to 2 kilometres from any wind farm. The reasons for selecting the 2 kilometres distance as an appropriate basis for assessment of the effects of disturbance and displacement are set out below.

5.569 The evidence for the interaction of red-throated divers and wind farm developments begins with the Burgar Hill Wind Farm in Orkney. It should be immediately noted that this is a wind farm very different from that which is proposed in relation to Strathy South. It consists now of only six turbines arranged in a single line, but the turbines were not all erected at the same time. The turbines are small, very much smaller than that proposed in relation to Strathy South, and the first three turbines became operational in 1989 having been erected in the period 1981 to 1983. In 1981, there were five breeding pairs within the vicinity of the turbines, but by 1987, only two pairs remained despite the fact that by that point the site had not become fully operational. The effects are described in SNH O-27²⁷⁴ which suggests that birds were disturbed and displaced, at least as much by construction activity in the early days as by wind farm operation. [REDACTED]

5.570 There is a stable population nearby so the changes in the population at Burgar Hill are considered to be statistically valid. The conclusions which may be drawn from the Burgar Hill experience are that red-throated divers may be disturbed and displaced by the construction and operation of even very small wind turbine developments, but that some red-throated divers, perhaps a relatively small proportion of the species, may be prepared to tolerate small wind farm developments, provided that levels of disturbance are kept to a minimum. With so few turbines at Burgar Hill and with the towers and blades at that test

²⁷³ Red-throated diver records 1991-2006. [SNH 0-48]

²⁷⁴ Red-throated divers and wind turbines – burgar hill study. [SNH 0-27]

facility being so much smaller than those proposed for a commercial scale, 39 turbine, modern wind farm rated at 133MW such as Strathy South, barrier effects do not appear to occur whereas they must be taken account of in assessing the likelihood of disturbance and displacement in relation to Strathy South individually and in association with the constructed Strathy North and the applied for Strathy Wood.

5.571 Much the most detailed comprehensive and persuasive evidence of the effects of wind farms and red-throated divers is derived from the 68 turbine wind farm constructed on the island of Smøla, Norway between 2001 and 2005. There were [REDACTED] of red-throated divers on Smøla in the year immediately prior to the first phase of wind farm construction, although in other years only 10 to 13 breeding attempts were made. This variability is likely to be due in part to varying survey effort as well as real differences between years in diver loch occupancy.

5.572 A detailed scientific report in respect of the Smøla development and its interaction with red-throated divers is at SNH O-28²⁷⁵.

5.573 The report includes figures showing breeding pairs in different years. [REDACTED]

[REDACTED] Note though that the variability in these figures should be considered in the light of the difficulties in surveying red-throated divers and the likelihood of early failure meaning that breeding pairs are not detected.

5.574 In terms of the distribution [REDACTED]

5.575 At least as striking was the observation made in 2007, during a red-throated diver species specific study of effects of the wind farm construction and operation, that despite structured observations, not a single red-throated diver was observed flying through the turbine area for the period of May/June of 2007. There is no reason to believe that flight activity in May and June is not typical of flight behaviour throughout the whole breeding season.

5.576 In the discussion section of the report at section 5, it is confirmed that "the species is known to be highly vulnerable as a breeder to human disturbance ". The discussion concludes: "It is a significant possibility therefore, that birds were actively avoiding the entire wind farm area, but the data is insufficient to establish this with certainty."

5.577 In the conclusion section of the report, it is observed that the data suggests that the wind farm area has been rendered unsuitable as breeding habitat by the construction of the wind farm.

²⁷⁵ Red-throated diver at Smøla wind turbine installation 2. [SNH O-28]

5.578 Further evidence of the effects on wind farms on red-throated diver has recently become available as a consequence of a recent wind farm development. In its inquiry document SSE_11.58 which also constituted part of the 2015 further environmental information, the applicants set out material in relation to the Carraig Gheal Wind Farm development which is located in Argyll, Scotland. This wind farm was constructed over 2010 and 2013 and is now fully operational. [REDACTED]

5.579 Figure 2 of SSE_11.58 identifies lochan clusters around the development site whilst figure 3 shows red-throated diver flights and breeding records in 2010. [REDACTED]

[REDACTED] From figure 3, one can see that there were a variety of flight lines recorded in and around the proposed turbine area, including in and around, towards and away from the lochan site occupied to the south east of the proposed turbine area. Further flight data from 2014 is presented in figure 4 once the turbine array had been constructed and was operational. The difference between the flight activity in 2010 and 2015 is striking. In short, there is no flight activity in, over or around the turbine area, with all of the flight activity from the single breeding record site at Maol Odhar being generally to the north and north east with a few flights to and from the north west. There is a complete avoidance of the turbine area for all purposes. One flight is recorded over the lochan to the south east of the turbine area, but even that flight does not appear to come from the turbine area direction.

5.580 The Carraig Gheal evidence entirely supports the evidence from the Smøla Wind Farm which is to the effect that there will be a complete avoidance of operational turbine areas by red-throated divers once they become operational. This flight avoidance may also commence from the construction phase.

5.581 [REDACTED]

5.582 [REDACTED]

[REDACTED] It is impossible to draw any conclusions regarding the long term use of this nesting site by red-throated diver given the site faithful characteristics of the species, but even in the Smøla case [REDACTED]

although shortly thereafter, all red-throated divers had abandoned all breeding habitat within about 2 kilometres of the wind farm.

5.583 [REDACTED]

[REDACTED] no reliable conclusions can be drawn from very limited numbers of pairs over a very short time period when attempting to make reliable judgements as regards conservation objectives which are to be judged on a long term basis. It is not known what degree of disruption from construction activity might have occurred at a time when the Strathy North

site was occupied by red-throated divers, construction activity having ceased on the site some time before the birds were first observed and in any event, the site was not operational during the period of known occupation. Ultimately, the breeding attempt was unsuccessful, and it is not known if this is because the birds were disturbed or from some other cause.

5.584 The overwhelming body of evidence is that red-throated divers avoid flying through, over or amongst substantial wind turbine arrays and that they may be disturbed and displaced out to a distance of up to 2 kilometres from operational wind farms. The degree of avoidance and the implications for disturbance and displacement of the qualifying species is similar in terms of anticipated effects to that for the pair of eagles in the Bagmoor case and the identified behavioural characteristic of avoidance of wind farms of that species.

5.585 A detailed evaluation of the implications of the evidence in relation to red-throated divers is undertaken by SNH at paragraphs 80-94 of SNH O-52.

5.586 The conclusion is that as a consequence of disturbance and barrier effects, there would be a complete cessation of the use of the area in and around the proposed turbine area of the Strathy South proposed development during construction and operation of the development.

5.587 This in itself would constitute significant disturbance of red-throated divers from the SPA over the long-term. [REDACTED]

[REDACTED] Flight activity of red-throated divers currently is illustrated by figures A11.1. 34, A 11.1.37, A11.1.40 and A11.1.43²⁷⁶. If other lochans were to be in use, then those in use at the years in respect of when the figures were compiled, then the flight activity over the proposed turbine area would be different but would be no less extensive. The construction of and operation of the Strathy South wind farm is very likely to be a major barrier to flight activity by red-throated divers in and around this part of the SPA. It could have a direct impact on the suitability of the whole area of the SPA around the proposed turbine area for use for nesting and other purposes by red-throated divers. Strathy South could in and of itself create a substantial effective flight barrier for red-throated diver and Figures A11.1.47 and A11.1.51 of CD 4.5 demonstrate, from a cumulative perspective, the barrier effect that would result from a combination of wind farms at Strathy North, Strathy Wood and Strathy South.

5.588 Further, the well-established avoidance of constructed and operational wind farms by red-throated from operational turbines would further disturb and displace red-throated divers and render the habitat of parts of the SPA no longer suitable for red-throated divers. The disturbance/displacement distance which SNH generally operates to is of the order of 700 to 750 metres from the nearest turbine in the case of red-throated diver but there is evidence from the Smøla wind farm that where larger arrays of turbines are concerned, such as that proposed for Strathy South the disturbance and displacement range may go out to 2 kilometres. it is difficult in advance to state with precision what the disturbance and displacement range may turn out to be with any one wind farm or part of wind farm, topography, ground cover, degree of established faithfulness to a specific nesting site and a

²⁷⁶ ES Addendum – confidential. [CD 4.5]

range of other factors may play its own part in each individual case. However, in carrying out the assessment process the decision maker is required to take a precautionary approach and it would not be acceptable for eminently and established habitat for red-throated diver to be effectively lost because birds will not habituate to it either as individuals looking for future nest sites or pairs for nesting because of the proximity of a developing or operating wind farm when the habitat has for decades been established as supporting generations of breeding red-throated divers. This is a circumstance in which a high degree of caution is required to be applied.

5.589 The effects are exacerbated by the intended line of the access track passing as it does in close proximity to [REDACTED] which is a long term and established breeding site. For the reasons set out in SNH-O52 from paragraphs 80 to 94, it is considered very likely that the birds using [REDACTED] would be disturbed and displaced by traffic and other development related activities. The evidence is that once displaced by wind farms, birds do not return. [REDACTED]

5.590 Further there are the considerations related to lochan 64 which is located within the proposed turbine array. Although this is outwith the area of the SPA the applicants have accepted that breeding attempts at that location have been by 'SPA birds' accordingly the very likely loss of that nesting site for red-throated diver were the Strathy South development to proceed should be regarded as in and of itself disturbance and displacement of the red-throated diver SPA qualifying species and as contrary to the conservation objectives of the SPA. [REDACTED]

5.591 The advice of SNH is summarised at paragraph 90 at SNH O-52 in the following terms with respect to risks to the breeding SPA red-throated diver population:

- The virtually certain loss of the breeding pair that uses [REDACTED].
- The loss of the breeding site at [REDACTED] as a result of construction noted disturbance, operational traffic and disturbance during decommissioning [if the site continued to be used] is considered to be very likely.
- Predicted disturbance from construction, operation and decommissioning at the possible breeding sites at [REDACTED] is considered to be possible. [REDACTED] Barrier effects on the pair that breeds at [REDACTED] are considered possible and potentially, on the basis of the Smøla experience, those at [REDACTED].
- Disturbance and displacement risks to non-breeding red-throated divers associated with other water bodies outside the development site, possibly through collision risk, but more likely through disturbance and barrier effects where such sites are in close proximity to the forest edge and map location of operational turbines. Up to ten non breeding lochs would be used in any one year but in the absence of targeted flight data, it is not possible to say how many sites will be affected.

5.592 SNH advises at paragraph 54 that considering all the breeding and non-breeding red-throated diver that occupy habitat in the vicinity of the proposed Strathy South Wind Farm demonstrates a "much more complex, extensive and longer period and extent of

interactions between the red-throated diver qualifying interest in this area of the SPA and the proposed Strathy South wind farm than is advanced by the applicant."

5.593 The same paragraph goes on to explain why SNH advocates adopting a precautionary approach in the circumstances which, it is submitted, is wholly consistent with the obligations of the Habitats Directive in terms of which Article 4(4) of the Birds Directive is to be read.

5.594 That is why, in the case of red-throated divers, the mitigation measures proposed by the applicants are considered unlikely to enable Scottish Ministers to ascertain with the requisite degree of certainty that there will not be adverse effects on the integrity of the SPA having regard to its conservation objectives are set out in paragraphs 95-107 of SNH O-52.

5.595 At paragraphs 108 and 109 of SNH O-52 a Habitats Regulations Assessment is undertaken with respect to red-throated divers and this was continued in paragraphs 110-123, including a summary of the assessment with respect to the conservation objectives between paragraphs 122 and 123.

5.596 SNH advises that three of the conservation objectives will not be met and the reasons for this are set out in paragraphs 117-122 with the relevant conservation objectives identified.

5.597 In conclusion, in relation to red-throated diver SNH advises at paragraph 123 of SNH O-52: "on this basis SNH's advice is that it cannot be concluded beyond reasonable scientific doubt that the proposed wind farm will not adversely affect the integrity of the Caithness and Sutherland Peatlands SPA. This is based on adverse impacts arising from disturbance/displacement to breeding and potential disturbance to non-breeding red-throated divers."

Conclusions

5.598 Having regard to the conservation objectives of the Caithness and Sutherland Peatlands SPA it has not been demonstrated to the requisite degree of scientific certainty, that is beyond reasonable doubt, that as regards the greenshank and red-throated diver qualifying species (each species to be considered separately) that the integrity of the protected site would not be adversely affected if the Strathy South development were to proceed, and that both individually and with other plans and projects, and that accordingly the application for section 36 consent and for the associated deemed planning permission must be refused.

5.599 Having regard to the conservation objectives of the Caithness and Sutherland Peatlands SPA it has not been demonstrated to the requisite degree of scientific certainty, that is beyond reasonable doubt, that as regards the hen harrier qualifying species that the integrity of the protected site would not be adversely affected if the Strathy South development were to proceed without imposition of the proposed sward management condition and adherence to and implement by the applicant of its terms and that accordingly unless the referenced proposed condition is so attached and adhered to and implemented by the applicant the application for section 36 consent and for the associated deemed planning permission must be refused.

5.600 Further and in any event having regard to the above conclusions the proposed development would not be in accordance with the provisions of the development plan and of SPP referenced in CD 10.1 and that the application for section 36 consent and associated deemed planning permission should be refused.

RSPB Scotland's position

5.601 Since January 2003 RSPB Scotland has consistently expressed its concerns about a wind farm at the application site. It objected to the 77 turbine application lodged in 2007 and maintained its objection to the modified version in 2013. RSPB Scotland objected to the project in January 2015. Its position is that the applicant has not demonstrated that the project will not adversely affect the integrity of the SPA because of its impact on red-throated diver, greenshank, wood sandpiper and hen harrier.

5.602 Following the oral evidence of Dr Greg Mudge, on behalf of SNH, RSPB Scotland made an unopposed motion to provide legal submissions detailing its interpretation of the Habitats Directive and transposing legislation. It was agreed at the inquiry session that the legal submissions should not include an explanation of the law specific to the Project. Legal submissions on behalf of RSPB Scotland were lodged timeously on 25 June 2015.

5.603 RSPB Scotland has provided a comprehensive assessment of the effects of the proposal on each conservation objective for red-throated diver, greenshank, wood sandpiper and hen harrier. That comprehensive assessment is entirely missing from the evidence of Mr Scott and Dr Zisman.

5.604 For the applicant, Ms Wilson's cross-examination of Dr Alan McCluskie focussed almost exclusively upon his assessment of the project's impacts on hen harriers. RSPB Scotland's evidence on red-throated diver, wood sandpiper, greenshank (excluding modelling) and proposed habitat management was not tested at all by cross-examination.

Habitat Management

5.605 Dr Dargie and Dr Zisman both gave evidence about a new proposed regime for habitat management; this was provided to all parties on 23 March 2015, after the lodging of inquiry statements on 27 February 2015. The applicant did not advise parties at the pre-examination meeting that a reworked set of proposals was being contemplated. The applicant has not satisfactorily explained why there is a delay of 8 years between the submission of the original application and the provision of an outline habitat management plan.

5.606 RSPB Scotland's response to the outline habitat management plan was submitted on 29 May 2015. Once again, to avoid duplication and repetition, the outline habitat management plan is not considered further herein.

5.607 Dr Dargie agreed that RSPB Scotland is experienced in the restoration of peatland and is undertaking that work at its adjacent reserve. His knowledge of the precise nature of that work is scant, however. For example he did not know that the trees at Dyke were of similar age and yield class to those on the application site.

5.608 It is reasonable to expect that a party proposing such technical work would consult with others similarly engaged. That expectation is even more reasonable when that work is already being carried out on adjacent land with a shared history.

5.609 The applicant has belatedly proposed a series of habitat management measures. Dr McCluskie noted that the size of suitable habitat that a hen harrier would require for nesting is very small. RSPB Scotland does not judge that the applicant has demonstrated, with the

requisite degree of certainty, that none of the habitat will be attractive particularly for birds looking to establish their own territories.

5.610 The applicant has conducted an assessment of the existing habitat. There is no assessment of the attractiveness of the post-felled habitat to SPA qualifying birds nor their interaction with it. Dr McCluskie gave a compelling explanation about the possible relocation of birds into newly felled habitat and his assessment of the relocation of birds at Forsinard and Strathy Wood.

5.611 Like Dr Zisman, RSPB Scotland does not judge that the attractiveness of an area to birds is informed solely by habitat.

5.612 RSPB Scotland acknowledges that the applicant is trying to balance competing objectives in managing the application site, surrounded by the SAC, for peatland restoration whilst ensuring simultaneously that it does not become attractive for SPA birds. Those competing objectives cannot be reconciled whilst simultaneously demonstrating that the integrities of the SAC and SPA will not be adversely affected.

Red-throated diver

5.613 Mr Scott confirmed his agreement with the characteristics of red-throated diver as set out in RSPB Scotland's topic paper.

5.614 At paragraph 4.3 in his precognition Mr Scott records that "it is considered unlikely that any disturbance arising from construction will result in the abandonment of the site by [red-throated diver]." RSPB Scotland acknowledges the applicant's intention not to commence construction "in sensitive areas... during the breeding season" but this is in marked contrast to avoiding construction in those areas during the breeding season. Mr Scott was unable to confirm that there will not be any construction within the sensitive areas during the breeding season.

5.615 That red-throated divers move amongst lochans is not controversial. Mr Scott agreed that the use of a particular lochan by red-throated diver indicates only that the lochan is the preferred location at that time. Mr Scott also agreed that even if a lochan is not used every year it could still be crucial to the continued ability of red-throated divers to breed successfully.

5.616 Mr Scott's assessment of the impacts of the proposal relies upon the partial information that he has provided about other wind farm developments. In cross-examination Mr Scott was taken to

[REDACTED] In that case the wind farm was sited away from the commuting routes to and from the feeding areas. The same does not hold true for the application. In order to continue to access existing feeding areas, red-throated divers would need to fly over the array of turbines if they were not to make substantial deviations in their routes; the existing flight patterns are in areas where it is proposed to site turbines.

5.617 Furthermore, figures 3 and 4 in Mr Scott's topic paper show that the lochan nearer the Carraig Gheal array was occupied in 2010 but not in 2014. Construction of the Carraig Gheal Wind Farm commenced in 2012 and continued in 2013. Mr Scott has not presented any evidence of any other event that could have contributed to the displacement of red-

throated divers from that lochan; the only change since the occupation of that lochan in 2010 is the construction of the wind farm. The only reasonable conclusion is that the Carraig Gheal Wind Farm may have contributed to the displacement of red-throated divers from a previous breeding location.

5.618 The applicant has not presented any evidence to demonstrate that birds would relocate within the Caithness and Sutherland Peatlands SPA. The existing flight lines to and from feeding grounds are over an area where turbines are proposed. The effects of the Carraig Gheal Wind Farm tend to support RSPB Scotland's concern that the proposal could disturb or displace red-throated divers.

Greenshank

5.619 The applicant's data (SSE 11.56²⁷⁷, page 8, Table 1) demonstrates that, even in its existing unattractive condition, the application site (ranked 19 in order of density) supports densities of greenshank larger than those in Skinsdale Peatlands SSSI, Syre Peatlands SSSI and Strathy Bogs SSSI. It is therefore important to greenshank and the adjacent SPA.

5.620 It is not disputed that greenshank fly at collision height. This is also the case in spring when they are performing display flights. The Band collision model is considered below. Its shortcomings are true for greenshank just as they are for hen harrier when displaying. Thus, the applicant has not undertaken an accurate assessment of the collision mortality of displaying greenshank.

5.621 Mr Scott has performed a detailed analysis of a number of other wind farms. In the case of greenshank he judges the wind farms at Achany and Rosehall particularly relevant.

5.622 The proposed development has to be determined on its own merits. Other proposals may be helpful in indicating wider trends and behaviours but they do not take the place of rigorous and accurate assessments of the application being determined. That is particularly so when, as here, there exist material differences among the developments subject to comparison.

5.623 Mr Scott did not have enough knowledge to answer when asked about about the proposal and similarities to the Achany and Rosehall developments. Mr Scott did accept that:

- The maximum distance between the proposed turbines and the SPA is approximately 800 metres (i.e. all 39 turbines are within 800 metres of the SPA). For both the Achany and Rosehall wind farms the corresponding distance is approximately 2,000 metres.
- Neither the Achany nor Rosehall site is surrounded by internationally designated land.

5.624 Dr Zisman was also unconvinced by the relevance of Mr Scott's exercise of comparisons. He accepted that the numbers of greenshank present at the Achany and Rosehall wind farms are so small "as to inhibit statistical analysis".

²⁷⁷ RPS (2015d) Habitat suitability and greenshank distribution relating to Strathy South Wind Farm. [SSE_11.56]

Wood sandpiper

5.625 Wood sandpipers are of a similar size to a starling. They are found by pools and feed on invertebrates²⁷⁸. Generally associated with mires and marshes wood sandpipers select those that are close to lochs with large shore lengths and sedges at their margins. Wood sandpipers are mainly located in open habitat but some are found close to conifer plantations (RSPB D23, pages 41 and 42).

5.626 Wood sandpipers are not conspicuous when silent. They are small and “cryptically coloured”²⁷⁹. Thus, they are “easily overlooked” when they are on the ground.

5.627 Scotland is the only part of Britain where wood sandpipers breed and, since 1997, all known breeding records are in the Highlands and Western Isles. The JNCC’s 2001 SPA Review Species Accounts (RSPB G7²⁸⁰) indicate 5 pairs within the SPA representing some 50% of the national population, estimated by SNH for that publication as being 10 pairs. A more recent (2007) national survey gave a population estimate of 26 pairs²⁸¹. It is not clear from that publication whether the SPA contributed more than 5 pairs to the overall estimate, although the fact that Caithness and Sutherland had 12 out of 20 sites with wood sandpiper present (RSPB G5, table 3) suggests strongly that more than 5 pairs will have been present on the SPA that year. Regardless, it is clear that the SPA is a very important breeding area for this extremely rare bird.

5.628 The majority of wood sandpipers return during early May. Males and females perform a song flight prior to nesting during which they circle the territory and fly as high as 300 metres above the ground. Some display over more than one site and repeat their display as far away as 800 metres. These display flights are likely to increase the risk of collision with the proposed wind turbines.

5.629 There is little information about these song flights; records on the Insh Marshes suggest that the most frequent displays took place between 0600 and 0700 and between 1100 and 1200. In Sutherland, however, the birds were recorded singing “persistently” after 1800²⁸².

5.630 Mr Scott agreed that the SPA is an important site and the wood sandpiper is “a very important, rare bird”. Mr Scott advised that the loss of even a single pair would be “significant”.

5.631 The rarity of these birds is reflected in the paucity of data on the potential displacement or disturbance effects from wind farms. In his report²⁸³ Mr Scott cited two papers which “suggested” that “disturbance distances” for wood sandpiper range between 150 metres and 300 metres. In cross-examination Mr Scott accepted that neither of those papers considered the disturbance or displacement effects from the construction or operation of wind turbines. In fact, both papers concerned disturbance caused by human observers.

²⁷⁸ RSPB Scotland Topic Paper (page 41). [RSPB D23]

²⁷⁹ RSPB Scotland Topic Paper (pages 41 and 42). [RSPB D23]

²⁸⁰ Stroud et al (2001). SPA Review. (wood sandpiper). [RSPB G7]

²⁸¹ Numbers and distribution of breeding wood sandpiper. Results of the 2007 National Survey Scottish Birds. [RSPB G5]

²⁸² RSPB Scotland Topic Paper (page 44). [RSPB D23] and Waders -Their Breeding, Haunts and Watchers [RSPB G10]

²⁸³ RPS (2015g) Wood Sandpipers and Strathly South Wind Farm (paragraph 3.4). [SSE_11.59]

5.632 The third document referenced in Mr Scott's report at paragraph 3.4 was not produced to the inquiry session and cannot be considered.

5.633 Mr Scott conceded that his assessment of the disturbance/displacement effects of the proposal on this rare and important bird is not supported by any documents or data. There being no information to demonstrate that the wood sandpiper would not be disturbed or displaced by the proposed development, consent cannot be granted.

5.634 The applicant deleted turbine 51 to assuage the concerns of SNH. Mr Scott agreed that the distance between turbine 51 and the recorded birds was approximately 500 metres. Another 3 or so turbines are sited at broadly the same distance as was turbine 51.

5.635 In cross-examination Mr Scott agreed with RSPB Scotland that survey results should be accurately recorded to enable an accurate assessment of the birds and the impact of development upon them. It is therefore surprising that Mr Scott's evidence contains competing records of the presence and activities of wood sandpiper.

5.636 The 2013 technical appendix recorded a single bird calling at [REDACTED] on 9 and 23 July 2010. No further evidence of any breeding was recorded at this location²⁸⁴.

5.637 The FIR of 2014 records a single wood sandpiper "[REDACTED]" and the second not far away on 15 July 2010 (CD 5.2 Technical Appendix 5.2, Appendix 4, fifth unnumbered page of RPS letter to SNH dated 24 December 2013 (104th page of electronic pdf of CD 5.2 TA 5.2)). There are two records of wood sandpiper activity on 22 July 2010 at [REDACTED]. The first record describes "an adult calling that exhibited agitated behaviour" and the second record is of alarm calling.

5.638 Mr Scott's most recent effort at accurately presenting the presence and activities of this rare and important bird is found in his report (SSE 11.59, Table 1, page 9). There he records four dates in July 2010 at [REDACTED] whereas the 2013 ES addendum refers to only two of those dates.

5.639 In contrast to the 2014 FIR Mr Scott's 2015 report notes the activity as "single bird recorded calling". Mr Scott has therefore omitted from his report to the inquiry session both the alarm calling and the agitated behaviour previously included in the 2014 FIR.

5.640 The criteria are clear; the Rare Breeding Birds Panel ("RBBP") Recording Guidelines for Wood Sandpiper²⁸⁵ defines "agitated behaviour or anxiety calls from adults" as "probable breeding". In contrast, calling is categorised as "possible breeding". Thus, by omitting his previously recorded agitated behaviour and alarm calling Mr Scott felt able to advise that the proper categorisation of wood sandpiper in 2010 is only "possible breeding".

5.641 Mr Scott's attempts to justify these fundamental discrepancies became increasingly desperate. First he suggested that the RSPB's document may not be an accurate representation of the RBBP's categorisation. Mr Scott has not produced an alternative version. In his evidence-in-chief Dr McCluskie explained that he had checked the RBBP website. He confirmed that the document produced by RSPB Scotland (RSPB G6) is the

²⁸⁴ Technical Appendix A.11.1, page 74. [CD 4.5]

²⁸⁵ Rare Breeding Birds Panel: Recording Guidelines for Wood Sandpiper. [RSPB G6]

up-to-date, current version produced by RBBP. The applicant did not challenge Dr McCluskie's evidence.

5.642 Secondly, on this topic, Mr Scott impugned the RBBP's reputation simply because RSPB is a leading partner. Dr McCluskie, in evidence-in-chief, noted the membership of the Panel in 2011 (RSPB G4, page 501). Panel members serve in a "personal capacity, but some also reflect the interests and requirements of the funding partners, JNCC...and RSPB as well as the BTO". Dr McCluskie also drew attention to the aim when appointing members to the panel "...to achieve broadly representative geographic coverage and to include members who have active involvement in monitoring schemes and specialist research groups, or who participate in various external groups, to facilitate liaison between the Panel and researchers, nest recorders, ringers, surveyors and conservation practitioners".

5.643 The discrepancies in Mr Scott's recording of wood sandpiper could, on their own, be viewed as a series of errors resulting in an underestimate of a rare and important bird. Faced with these clear and fundamental discrepancies the proper course is for the witness to accept that mistakes had been made. Mr Scott's conduct, particularly his attempts to discredit RSPB Scotland and the RBBP, is not appropriate for an expert witness.

5.644 In conclusion, Mr Scott criticised RSPB Scotland for maintaining an objection which is "unreasonable and overly precautionary and goes against published data sources." (Scott, precognition, paragraph 4.5). It is clear from the foregoing that it is, in fact, Mr Scott's criticism that is unreasonable. The requirements of the Habitats Regulations are clear; Ministers must refuse consent where it cannot be demonstrated that the proposed development would not adversely affect the integrity of the European site.

5.645 The applicant's witness has accepted that his assessment of the disturbance/displacement effects of the proposal is not supported by any documents or data. Furthermore there is no information to demonstrate that the deletion of turbine 51 effectively mitigates the effects of the development. Even a cursory examination of the location of the turbines shows that there are other turbines located a similar distance from wood sandpiper nests and territories. There is no information to support a conclusion, with the requisite degree of certainty, that the wood sandpiper would be neither disturbed nor displaced by the proposed development.

5.646 Finally, Mr Scott has failed to record consistently the presence and behaviour of wood sandpiper. He has not explained why he omitted from his inquiry report the clear evidence of probable breeding which was included in the FIR. The data relied upon to recommend that consent be granted does not withstand scrutiny. The assessment presented on behalf of the applicant is fundamentally flawed and it has not been demonstrated that the proposal would not adversely affect the integrity of the Caithness and Sutherland Peatlands SPA. In the absence of any cross-examination of Dr McCluskie on the impacts of the proposed development on wood sandpiper, RSPB Scotland's assessment must be afforded significant weight.

Hen harrier

5.647 Dr Zisman explained that his precognition should be read in conjunction with the report "Hen Harrier Interactions With Operational Wind Farms and Response to RSPB

objection” (SSE_11.57²⁸⁶) (“the Hen Harrier Report”). He accepted that the Hen Harrier Report was written by his colleague, Helen Riley and that Mr Scott reviewed it. Dr Zisman’s role in the Hen Harrier Report was confined to authorising it. He also accepted that his precognition summarised the Hen Harrier Report.

5.648 At the outset of cross examination Dr Zisman agreed that:

- The application site is surrounded by an SPA.
- The qualifying interests are as listed in RSPB A2²⁸⁷.
- RSPB Scotland has objected to the proposal in respect of 4 of the 12 qualifying species.
- The SPA’s conservation objectives are listed in RSPB A2.
- RSPB Scotland’s objection is that, for hen harrier, the applicant has not demonstrated that 3 of the conservation objectives will be met.
- Hen harriers’ attraction to particular areas is not limited to the ground conditions; airspace and thermals also contribute to that judgement.
- Hen harriers are frequently polygynous with up to 6 females associated with 1 male. However on mainland Scotland there are usually fewer than 6 females to 1 male.
- The death of 1 male can cause more than one nesting failure.
- Particularly in the early breeding season, males range widely.
- Males may display at many different locations before settling.
- The breeding cycle begins in early Spring with site occupation and territorial display peaking in early April to early May. Thus, early surveys should be undertaken. The key survey period is prior to laying.
- There is no guarantee that, should the first attempt fail, hen harriers will re-lay.
- There are normally between 6 and 8 eggs laid at 48 hour intervals. Incubation usually begins after the second or third egg is laid. The incubation period usually lasts for approximately 29 – 31 days.
- Females rarely hunt during the incubation period. Females lose condition when incubating and are vulnerable to predation at the nest.
- Fledging takes place around 30 days after hatching with parental feeding continuing for at least another fortnight. Hen harriers disperse from late July onwards.
- In general, male hen harriers are more susceptible to collision because of their display flights.
- The hen harrier population is declining in certain areas. In particular the population in Scotland is declining. Indeed there are some “notable declines” in the Scottish population²⁸⁸.

Hen harrier population

5.649 Dr Zisman’s agreement that the harrier population is suffering “notable declines” in Scotland undermines his written evidence. The Hen Harrier Report is critical of RSPB Scotland for raising concerns about the application to the assessment of the proposal of the results of a population viability assessment (“PVA”) for another wind farm development.

²⁸⁶ RPS (2015e) Hen harrier interactions with operational wind farms. [SSE_11.57]

²⁸⁷ Caithness and Sutherland Peatlands SPA citation documents. [RSPB A2]

²⁸⁸ The status of the hen harrier in the UK and Isle of Man in 2010. (page 452, table 4 and page 453). [SSE_11.92]

The Hen Harrier Report asserts that “the Camster Wind Farm PVA²⁸⁹ referred to by RSPB Scotland is quoted by SNH as an example of good practice in their guidance note²⁹⁰ on post-construction management in wind farms on clear-felled forestry sites. In fact, and as accepted by Dr Zisman in cross examination, the Hen Harrier Report is inaccurate; SNH does not cite the Camster Wind Farm PVA as an example of good practice.

5.650 There are two problems with the Camster Wind Farm PVA such that its conclusions should not be extrapolated to the assessment of the proposal. Firstly it studied only female birds. Such female-only studies have been the subject of criticism (see, for example, RSPB F12, page 1188²⁹¹) because they do not account for the higher mortality of males or the effects of polygyny.

5.651 Secondly the Camster PVA used the population data from the 2005 national survey. Dr Zisman accepted that, quite unlike the current “notable declines” in the Scottish population, the 2005 data showed a hen harrier population that was increasing exponentially.

5.652 These flaws in the Camster PVA render inappropriate the extrapolation of its conclusions to the assessment of the proposal’s impacts on the SPA. RSPB Scotland’s criticism of the applicant’s assessment as set out in paragraph 3.32 of the Hen Harrier Report is entirely valid.

Hen harrier displacement

5.653 Disturbance and displacement of hen harriers can arise from the construction and operation of wind farms²⁹². Maintenance work, decommissioning and increased recreational access can also cause displacement of hen harriers. Dr Zisman and his colleagues explain that there exist “few reports on post-construction monitoring.”²⁹³ RSPB Scotland agrees that data for displacement of hen harrier are limited and refer to the “most comprehensive review of the evidence of displacement effects” by Pearce-Higgins et al 2009²⁹⁴. It found that there was “some evidence of displacement of harrier flight activity”.

5.654 Somewhat bizarrely given the references in RSPB Scotland’s topic paper to the 2009 Pearce-Higgins study, Dr Zisman, in his precognition criticises RSPB Scotland for advising that “...data from operational sites should be ignored.” In cross-examination Dr Zisman was unable to cite any examples of such advice from RSPB Scotland.

5.655 Furthermore, Dr Zisman’s criticism is contradicted by the Hen Harrier Report. It states that “RSPB [Scotland] refer to Pearce Higgins et al. (2009) as a study which provides evidence of the displacement of hen harriers from wind farms.” The next sentence of the Hen Harrier Report explains that the 2009 study by Pearce-Higgins et al referenced by RSPB Scotland “...was based on surveys at 12 wind farms.”

5.656 Dr Zisman’s claim that he had “critically reviewed” the 2009 study by Pearce-Higgins et al does not bear scrutiny. Dr Zisman accepted that his critical review is, in fact, confined

²⁸⁹ Assessment of effects of the proposed camster wind farm on hen harriers and merlins. [SSE_11.86]

²⁹⁰ Post-construction mangment of wind farms on clear-felled forestry sites. [SSE_11.96]

²⁹¹ Hen harrier management: insights from demographic models fitted to population data. [RSPB F12]

²⁹² RSPB Scotland Topic Paper (page 30, paragraph 81). [RSPB D23]

²⁹³ RPS hen harrier report (page 11, paragraph 3.14). [SSE_11.57]

²⁹⁴ The distribution of breeding birds around upland wind farms. [SSE_11.48]

to paragraph 3.16. For the record, Ms Cockburn explained that RSPB Scotland agrees with Dr Zisman and his colleagues; nest proximity ideally should have been included in the assessment.

5.657 The only other flaw identified by Dr Zisman and his colleagues is that the methods used by Pearce-Higgins et al are different to the standards adopted in wind farm surveys. A wind farm survey assesses the distribution of birds whereas the study by Pearce Higgins et al investigates the associations between wind farm infrastructures and birds. When asked Dr Zisman whether his criticism conflated the 2 separate purposes. Dr Zisman decided not to answer the question directly.

5.658 Dr Zisman and his colleagues invite Scottish Ministers to prefer the results of three other papers instead of the only peer reviewed study of hen harrier displacement at wind farms. The first is the 2015 report by Haworth Conservation. Dr Zisman accepted that the “poster presentation” at Paul’s Hill Wind Farm was neither peer reviewed nor produced to the Inquiry session. The final alternative is the report by O’Donoghue et al which has also been omitted from the inquiry. Once again Dr Zisman has failed to produce to the Inquiry session a report upon which he relies. Both the reports and the evidence associated with them cannot, therefore, be included in the assessment of the proposal.

5.659 In short, there is demonstrably a paucity of peer reviewed and published information detailing the disturbance/displacement effects of wind farms on hen harriers. Dr Zisman agreed that his evidence could be summarised thus: some displacement of foraging birds is to be expected because of loss of available habitat. This conclusion mirrors that of Pearce-Higgins et al. In contrast there will be no displacement of nesting hen harriers.

Under-recording of breeding attempts

5.660 RSPB Scotland is concerned that breeding birds may have been under-recorded for two reasons:

- 1) Surveys over several years did not always conform to standard guidance.
- 2) There is an absence of survey visits early in the year.

5.661 In cross-examination Dr Zisman accepted that a fair summary of his response and that of his colleagues to RSPB Scotland’s concerns would be:

- It is difficult to distinguish between records of different breeding bird behaviours.
- Hen harriers lay eggs later in the north of Scotland so it matters not if the surveys are late.
- It matters not if the surveyors, because they were not present, did not detect a failed breeding attempt. Harriers will re-lay close to the original nest site and this second attempt will be detected by the surveyors.

5.662 When these matters were taken in turn, Dr Zisman accepted that the criteria for classifying behaviours into proven, probable and possible breeding attempts are well established being first mooted in 1976 and adapted in 2001 specifically for hen harrier²⁹⁵. He also agreed that the purpose of the criteria was to aid the classification of breeding

²⁹⁵ Status of hen harrier *circus cyaneus* in the UK and Isle of Man in 1998 (Table 1). [SSE_11.93]

behaviours. Finally Dr Zisman accepted that the behaviours used in the classification occur at different times in the breeding season.

5.663 Dr Zisman agreed that 2 of the 4 behaviours which define a proven breeding attempt, namely a food pass between adults and an adult carrying prey, can occur sometime before the first egg is laid. He also agreed that all 5 of the criteria for a probable breeding attempt can occur in advance of the first egg. Thus birds' behaviours that are important to identify proven and probable breeding attempts can, in Dr Zisman's opinion, take place before the first egg is laid.

5.664 Dr Zisman also agreed that display flights, which may be crucial in identifying breeding attempts are categorised as a probable breeding attempt. These, he agreed, can take place up to 6 weeks before the first egg is laid²⁹⁶.

5.665 The Hen Harrier Report sets out (SSE 11.57, page 10, paragraph 3.9) the mean and median laying dates in the North of Scotland as 11 May and 4/5 May respectively. Dr Zisman accepted that 23 March and 30 March are 6 weeks before the median and mean dates.

5.666 The dates of the surveys in 2010 and 2012 are recorded in the technical appendix A11.1 (CD 4.4/4.5). Surveyors were present for only 3 days before the median and mean laying dates in 2010 and only 4 days in 2012. The applicant's own data demonstrate that no breeding bird surveys took place in March notwithstanding that display flights could reasonably be expected from 23 March.

5.667 In an effort to explain the obvious omissions in survey effort Dr Zisman suggested that the shortcomings in the vantage point surveys ("VP surveys") could be addressed by considering the breeding bird surveys. Little reliance should be placed upon this attempted correction because, as noted by Dr McCluskie in evidence-in-chief and cross-examination:

- The methods in the two surveys are different.
- VP surveys assume no disturbance of the area being observed.
- VP surveys attempts to achieve long-range detection of birds in the air whereas breeding bird surveys are most effective at short-range detection of birds on the ground.
- It is much more difficult to plot the position of a distant, flying bird than during a VP survey.

5.668 Dr McCluskie also explained in cross examination that breeding bird surveys are "a very poor way of surveying raptors." He also explained that "hen harriers are an extremely sensitive species... [the surveys of hen harriers] cannot just be included in the breeding bird surveys...Disturbance from [breeding bird surveys] can prevent raptors from displaying or showing themselves." The applicant did not challenge this explanation.

5.669 The third proffered explanation to correct the fundamental failings in the VP surveys is the assertion that harriers will re-lay close to the original nest site and this second attempt will be detected by the surveyors. Dr Zisman agreed at the beginning of his cross-examination that there is no guarantee that, should the first attempt fail, hen harriers will re-lay. Furthermore Dr Zisman, contrary to his precognition, was unable to point to any

²⁹⁶ S Murphy pers comm (2012b) (page 98, section 3.2.1). [RSPB F26]

support for his suggestion that re-lays will take place within 0.5 kilometres of the original site.

5.670 The applicant has produced a paper by Etheridge et al which defines replacement clutches as those within proximity to an earlier attempt. Thus that study's definition means that all nests recorded as replacements will be near to the earlier failure. Indeed it is noted that "some replacements distant from the site where failure occurred were probably missed."²⁹⁷ Thus, Etheridge et al does not support Dr Zisman's theory.

5.671 The Hen Harrier Report misrepresents that study when it alleges that "it was assumed that all clutches laid after 9 May were replacements from a breeding attempt that failed earlier." In fact, the study removed from the analysis all of the clutches laid after 9 May to eliminate replacement clutches.²⁹⁸

5.672 Etheridge et al judge that "Given that almost all replacement clutches after failure were produced early in the season it was assumed that all but a negligible proportion were second attempts". This suggests that birds which breed later in the season are less likely to re-lay. Thus birds in Northern Scotland which breed later than elsewhere are less likely to re-lay thereby rendering redundant Dr Zisman's third explanation.

5.673 Finally, on this topic, Dr Zisman suggested that consistency of territory numbers over many years is evidence of accurate recording. Dr Zisman accepted that, in theory, consistent poor practice will generate consistently poor results.

5.674 It is not disputed that the hen harrier population can fluctuate greatly²⁹⁹. Furthermore Dr Zisman accepted that "hen harrier numbers correlated strongly with vole abundance". It is well-known that the vole population is cyclical³⁰⁰.

5.675 The spikes in numbers of hen harriers and the acknowledged cyclical abundance in prey availability demonstrate that consistency in numbers is a cause for concern, not comfort.

Hen harrier display flights

5.676 The characteristics of display flights are not disputed. For the record they are described in the RSPB topic paper at paragraph 70. Dr McCluskie also explained during his cross examination that harriers will reach heights of up to 150 metres before returning³⁰¹.

Hen harrier collision risk assessment

5.677 Dr McCluskie demonstrated a thorough understanding of the Band model, its application and its shortcomings. In contrast, Dr Zisman explained that he had not performed the collision risk assessment and that his colleague was not in attendance at the

²⁹⁷ The effects of illegal killing and destruction of nests by humans on the population dynamic of the hen harrier in Scotland (page 1085). [SSE_11.91]

²⁹⁸ The effects of illegal killing and destruction of nests by humans on the population dynamic of the hen harrier in Scotland (page 1085, line 10). [SSE_11.91]

²⁹⁹ Langholm Moor Demonstration Project: seven year review – December 2014 (figure 4, page 24). [RSPB F8]

³⁰⁰ Field vole *Microtus agrestis* abundance and hen harrier *Circus cyaneus* diet and breeding in Scotland. (summary). [RSPB F14]

³⁰¹ RSPB Scotland Topic Paper [RSPB D23] and Harriers of the world; Their behaviour and ecology. [RSPB F18]

Inquiry session. Dr Zisman's lack of knowledge was laid bare during his cross examination; he had to obtain confirmation from others about the flight speed that was entered into the model. Ultimately the speed of 9.1 metres per second was suggested.

5.678 Dr McCluskie explained in his evidence in chief that the 9.1 m/s as entered is correct for foraging flights. Referring to other documents (see, for example RSPB D1, SSE_11.8 and SSE_11.13³⁰²) before the inquiry session Dr McCluskie noted a range of foraging flight speeds from 8.3 m/s to approximately 11 m/s.

5.679 In contrast, the appropriate speed to be entered into the model for display flights is 1.85 metres per second (m/s)³⁰³. In answer to a question from me, Dr Zisman confirmed that "it is standard practice to use the figures from the literature." The applicant has not disputed that 1.85 m/s would be an appropriate speed to use to calculate the risk of collision to displaying hen harriers.

5.680 Dr McCluskie noted that there is little effect upon collision probability when 8.3 m/s, 9.1 m/s or 11 m/s are used. However the collision probability at 1.85 m/s is much greater with collision far more likely at low speed. Dr McCluskie explained that the failure to apply the display flight speed, relying instead upon only the much faster foraging speed, will underestimate the risk of collision.

5.681 Dr McCluskie has referenced the ongoing work into the Band model. Dr Zisman alleged, entirely without foundation, that "RSPB questions the validity of the industry-standard approach to collision risk modelling for hen harriers, yet have accepted this approach for numerous wind farms"³⁰⁴. In cross examination he conceded that neither Dr McCluskie nor RSPB Scotland has questioned the validity of the Band model; indeed he noted that there "was no intention to mislead in this respect."

5.682 In his evidence in chief Dr McCluskie noted that Dr Grant agreed that the Band model has its limitations (see Dr Grant, precognition at 3.1). Dr McCluskie's opinion is that the Band model can be updated and that it is still a useful tool, amongst others, when assessing collision risk. A review of the Band model is presented in the ongoing work by Dr Masden³⁰⁵.

5.683 In cross-examination Dr McCluskie was asked to accept that the modelling work undertaken in 2013 accorded with SNH's guidance. Dr McCluskie explained that the "SNH guidance does not actually specify what flight speeds are to be used for different flight behaviours." It may be that the applicant will suggest that Dr McCluskie's concerns should be set aside because they are not shared by SNH and SNH's guidance does not specify the use of different speeds for different behaviours.

5.684 That approach would not comply with the requirements of the Habitats Regulations. A development proposal must be refused when it cannot be demonstrated that it would not adversely affect the integrity of the European Site. The applicant has not presented any assessment of the collision risk to harriers when performing display flights. Thus the applicant's assessment does not accurately reflect the potential mortalities arising from the

³⁰² Developing field and analytical methods to assess avian collision risk at wind farms [RSPB D1], Birds and wind farms: risk assessment and mitigation [SSE_11.8] and Flight characteristics of birds [SSE_11.13].

³⁰³ Harriers of the world; Their behaviour and ecology (page 62 states 9 minutes to cover 1 kilometre). [RSPB F18]

³⁰⁴ Dr Zisman precognition, page 5, paragraph 6.3.iii.

³⁰⁵ developing an avian collision risk model to incorporate variability and uncertainty. [RSPB D7]

proposed development; indeed there is no evidence to suggest that it is anything other than an underestimate of the likely mortalities.

Hen harrier collision fatalities

5.685 The Hen Harrier Report (SSE_11.57) alleges that “post-mortems have been carried out on two of the corpses found at Griffin and that the deaths are the subject of a wildlife crime inquiry (hen harriers frequently being the object of illegal persecution).” In cross-examination Dr Zisman accepted that RPSB Scotland had produced the post mortem reports in response.

5.686 Even Dr Zisman has not disputed that there have been found, in proximity to the turbines at the applicant’s wind farm at Griffin, a minimum of two dead hen harriers. It is understood that it is the cause of the deaths which in the face of irrefutable and independent evidence, Dr Zisman feels unable to agree.

5.687 The email exchange between Dominick Murray of SSE and Claire Smith of RSPB Scotland records the investigations into the first fatality³⁰⁶. Dr Zisman accepted that:

- The interim report of 19 April 2012 concluded that the bird was a mature male, found dead in proximity to a turbine field. The interim diagnosis was “death due to head trauma.”
- The Toxicology Interim Report of 28 May 2012 did not identify any “significant residues”. It was decided that “further lab investigation will be undertaken.”
- The Toxicology Report of 21 June 2012 concluded that the casualty had recently ingested food but that “none of the residues most frequently associated with the death of wildlife” was present. The likely cause of death was recorded as “trauma, blow to the head.”
- The email to Mr Murray from Caroline Smith at the Scottish Agricultural College explained that “the toxicology lab did undertake further testing however they have now returned a verdict that there was no obvious residues in any of the tissues.” The final diagnosis is recorded as “death due to head trauma.”

5.688 The second fatality was received by the laboratory on 14 June 2013. The interim report of 8 July 2013 recorded:

- Sex unknown, adult female/older juvenile.
- “Bird identification: A Hen harrier, found under turbine 5, Griffin wind farm, near Aberfeldy”.
- The bird was “found dead under a wind turbine”.
- X-rays showed no sign of “foreign metal objects such as shot”.
- The fatality had a fractured left femur, which “appears to have occurred pre or peri-mortem and this trauma could be due to collision with a wind turbine”.
- Final diagnosis: Trauma which is consistent with the possibility of collision with a wind turbine. Other causes of trauma such as road traffic or other collision cannot be ruled out by any means, however the position at the foot of the turbine may be taken as circumstantial evidence to support the possibility of the wind turbine as the source of trauma”.

³⁰⁶ Post Mortem Reports on Hen Harrier at Griffin Wind Farm. [RSPB F34]

5.689 There is no suggestion from the applicant that it did not have the post mortem reports at the time at which Dr Zisman's colleagues were writing the Hen Harrier Report. It is also assumed that Dr Zisman had read the post mortem reports before alleging in his precognition that "there is no confirmed evidence that hen harrier casualties referred to by RSPB are the result of turbine collisions and there is no basis for concluding the mortalities at Griffin Wind Farm are almost certainly due to collision with wind turbines."

5.690 Dr Zisman's denials can be summarised as "death caused by anything other than the wind farm and/or associated infrastructure." In his evidence-in-chief Dr McCluskie explained at length why so-called "lamping" was not feasible as a technique for obtaining hen harrier corpses lacking evidence of shooting or poisoning. Dr Zisman's suggestion that someone had killed the birds and then planted them on the site of the wind farm is entirely fanciful and is not supported by any evidence. In a similar vein Dr McCluskie explained that the difference in turbine dimensions between those at Griffin and the proposed development were "quite inconsequential" given their other obvious similarities - Griffin is sited on land previously forested which was felled. The assessment found breeding hen harriers around the application site.

5.691 The Hen Harrier Report, in the desperation of its authors to neutralise the import of the post mortem reports, seeks refuge in the draft report by Haworth Conservation. Of course this paper is badged "For SNH use only".

5.692 The Hen Harrier Report refers to a "postscript which refers to 'unconfirmed reports of the two hen harrier deaths (to May 2012) at a newly commissioned wind farm.'" Particular reference is made to an unreferenced conclusion of the draft report for Haworth Conservation; "The injuries appear inconsistent with a strike from a rotating turbine blade".

5.693 In cross-examination Dr Zisman accepted that the Hen Harrier report was referring to page iii, paragraph t of the draft report by Haworth Conservation. The quotation contained in the Hen Harrier Report is incomplete. The full text of that paragraph reads: "At the time of writing there have been unconfirmed reports of two hen harrier deaths at a newly commissioned wind farm. The injuries appear inconsistent with a strike from a rotating turbine blade and may be more indicative of a collision with other wind farm infrastructure. Collision risk calculations assume that some hen harriers will be killed by wind turbines so it should be unsurprising that some have been killed and, in general, such predicted deaths are factored into an assessment of the risks from wind farms."

5.694 Dr Zisman conceded that the next paragraph in the draft report by Haworth Conservation, paragraph u, is also relevant to the recommendations of this report. For the record, it states: "However, if these deaths are confirmed, there are two aspects of perhaps greater significance. First, the pre-construction work did not appear to identify any significant risk for hen harriers and secondly the apparent close temporal and spatial proximity of the deaths suggests there may be time and location specific factors at work and a detailed analysis of the events would obviously be useful."

5.695 These two concerns of Haworth Conservation raise sufficient doubt about the accuracy of assessments where, as here, the wind farm is to be sited in a newly felled area with existing records of breeding hen harriers in the vicinity to result in a negative assessment under Regulation 48(5) of the Habitats Regulations.

5.696 The partial and inaccurate reporting by Dr Zisman and his colleagues of the draft report by Haworth Conservation is exacerbated by the complete omission of the postscript to the report. It records:

“3.4 Postscript

There have been recent (confirmed) reports of two male hen harrier deaths (May 2012) at the newly commissioned Griffin Wind Farm, near Aberfeldy, Perthshire. The injuries appear to be inconsistent with a strike from a rotating turbine blade and may be indicative of a collision with other wind farm infrastructure or a result of turbine slipstreams, which could have forced the birds into the ground or wind farm structures. The deaths of two hen harriers in such a short time, and in one location, seem unprecedented at a global scale. Nonetheless, collision risk calculations assume that some hen harriers will be killed by wind turbines so it should be unsurprising that some have been killed and, in general, such predicted deaths are factored into an assessment of the risks from wind farms.

However, there are two aspects of perhaps greater significance. First, the pre-construction work did not appear to identify any significant risk for hen harriers and secondly the apparent close temporal and spatial proximity of the deaths suggests there may be time and location specific factors at work and a detailed analysis of the events would obviously be useful. Given the sex of the birds, the timing and the proximity to good quality nesting habitat, it is probable that these birds were displaying, rather than foraging, when the collisions happened.

The two hen harrier deaths at this wind farm provide support for additional monitoring of this and all wind farms, at least for their first few years of operation. The locations and intensity of monitoring could be informed by information about general bird activity in the vicinity of the wind farm particularly during periods when birds may be displaying rather than foraging. However, it is also clear from other Scottish and worldwide wind farms that hen harriers can and do forage in close proximity to operational turbines without any apparent adverse impacts.”

5.697 If one reads all of the relevant parts of the draft Haworth Conservation report reproduced above the conclusion is that, although not indicative of a strike from a rotating blade, the fatalities may have arisen, directly or indirectly from other wind farm infrastructure. Further it is probable that the birds were displaying, not foraging. Additional monitoring and assessment is required.

5.698 In selecting only one sentence Dr Zisman and his colleagues have provided wholly misleading information.

Hen harrier conclusion

5.699 In conclusion:

- The attraction, particularly to birds wanting to establish territories, of newly created habitat has not been adequately assessed by the applicant. Local examples of hen harriers accessing newly-felled areas have not been given sufficient consideration in the applicant’s assessment.

- Only very small areas are required for successful nesting. The applicant has not demonstrated that the application site would not prove to be attractive new nesting habitat.
- The Camster PVA is unsafe and its conclusions should not be applied to the assessment of the proposal.
- There is no assessment of the changes to the behaviour of hen harriers post-felling.
- In accordance with the conclusion of the Pearce-Higgins et al study the applicant expects the proposal to displace some foraging harriers.
- The applicant's surveys do not always accord with standard practice. Furthermore surveys were undertaken too late; it cannot be discounted that the surveys have missed crucial evidence of breeding behaviour. The possibility that the applicant has missed crucial evidence of breeding cannot be discounted; thus the breeding attempts may have been under-recorded.
- Dr Zisman and his colleagues have gone to extraordinary lengths to suggest that the fatalities at the Griffin Wind Farm have no relevance to the proposed development. Even if the conclusions of Dr Haworth and his colleagues and those of all of the scientists who were involved in the post mortems can be set aside, there remains a fundamental flaw in Dr Zisman's analysis. He has presented no evidence to suggest that any other cause of death is anything other than a remote possibility.
- There are many similarities between the wind farm at Griffin and the proposal. The unexpected fatalities clearly merit further assessment and consideration of all proposed and existing developments sited on clear felled land with breeding hen harriers.
- The collision risk assessment wholly omits displaying hen harriers. Thus the assessment is likely to underestimate the collision probability and the impacts of the proposal upon the SPA.

Caithness and Sutherland Peatlands Special Protection Area

5.700 RSPB Scotland has objected on the grounds that, for each of 4 species, the Applicant has failed to demonstrate the absence of an adverse effect on site integrity.

5.701 In relation to red-throated diver, there may be construction activities within sensitive areas during the breeding season. Existing flight lines show that red-throated divers would need to fly over the turbines or make substantial deviations in their routes simply to continue to access their existing feeding grounds. The applicant has not provided any assessment of the effects upon red-throated divers of these substantial deviations in the existing routes to and from feeding locations. Lochans, even if not used in a particular year can remain crucial to the continued ability of red-throated divers to breed successfully. Information provided by the applicant about the Carraig Gheal Wind Farm demonstrates that it may have contributed to the displacement of red-throated divers from a previous breeding location. It has not been demonstrated that the proposed development would not adversely affect the integrity of the SPA; consent cannot be granted.

5.702 In relation to greenshank, even afforested the application site supports greater densities of peatlands than three SSSIs. There exist fundamental differences between the proposal and Mr Scott's suggested comparators. For example the proposal is much closer to the SPA. Dr Zisman opined that the numbers of greenshank at Mr Scott's suggested comparators are so small "as to inhibit statistical analysis." Instead of focussing his efforts

on a meaningless comparison exercise Mr Scott should have undertaken a robust and accurate assessment of the impacts of the proposal upon greenshank. There is no assessment of the effects of the development upon displaying greenshank. It has not been demonstrated that the Project will not give rise to an adverse effect on the SPA's integrity; consent cannot therefore be granted.

5.703 In relation to wood sandpiper, Mr Scott's assessment is not supported by any data or documents. Faced with discrepancies among the various reports comprising his assessment Mr Scott resorted to futile arguments about the accuracy of an RSPB Scotland document and, indeed, directly questioned RSPB's good faith. Again the applicant has failed to demonstrate that the integrity test has been passed. Consent cannot, therefore be granted.

5.704 In relation to hen harrier, Dr Zisman agreed that there is a notable population decline. The Camster PVA is unsafe and its conclusions should not be applied to the assessment of the proposal. Data for displacement were limited and criticisms by Dr Zisman of the study by Pearce-Higgins et al are wholly without foundation. Dr Zisman's assessment that foraging harriers would be displaced by the proposed development mirrors the conclusion of the study by Pearce-Higgins et al. Only a very small area is required for nesting. Dr Zisman agrees with RSPB Scotland that habitat is only one of the factors which influences the presence of birds. No assessment of the attractiveness of the clear-felled area has been undertaken. No account has been taken of birds entering newly felled areas locally. The competing objectives of peatland restoration and ensuring the application site is not attractive to birds cannot be reconciled. The applicant's surveys do not always accord with standard practice and took place too late. Breeding attempts may well have been under-recorded. The proposal has considerable similarities with the applicant's wind farm at Griffin. The concerns expressed and the measures suggested by Haworth Conservation following the fatalities of hen harriers at the Griffin Wind Farm apply equally to the proposal. The applicant has not presented any plausible alternative cause of death. In terms of foraging flight speeds a number of appropriate values were suggested. After a break in proceedings to obtain clarification Dr Zisman stated that 9.1 m/s was the speed used in the collision risk assessment undertaken by one of his colleagues. Dr McCluskie, noting that there is little effect on collision probability of varying speeds between 8.3 m/s and 11 m/s advised that 1.85 m/s is the appropriate speed for calculating collision probability by displaying harriers. That display flight speed may not be specified in SNH guidelines is irrelevant. There is no assessment by the applicant of the collision risk to hen harriers when displaying. Consent cannot lawfully be granted because an absence of adverse effect has not been demonstrated.

Conclusion

5.705 In RSPB Scotland's submission³⁰⁷

- The application site is wholly unsuitable for a wind farm given its location surrounded by international sites and with potential for successful restoration.
- The applicant has singularly failed to demonstrate an absence of adverse effect upon the SPA in respect of each of the identified qualifying species.
- Scottish Ministers are invited to refuse consent.

³⁰⁷ RSPB Scotland's submission also includes the legal submission cited in paragraph 5.1 above which details "its interpretation of the Habitats Directive and transposing legislation."

Reporter's findings

Preliminary matters

5.706 As a preliminary matter, the principal parties involved in the ornithology inquiry session have each submitted legal submissions and citations of case law (see paragraph 5.1 above). I have considered the submissions in relation to my findings but advise that Scottish Ministers seek their own legal advice on the matters raised, particularly on the issue of the application of the Habitats Directive (and associated regulation) in relation to decision-making.

5.707 The Highland Council supported the position of Scottish Natural Heritage in its reasons for objecting to the proposed application. The two parties had the same legal representation at the public inquiry but only SNH provided and led a witness in relation to ornithological matters. The closing submissions are presented on behalf of both THC and SNH. However, the submissions presented are primarily on behalf of SNH.

The Caithness and Sutherland Peatlands Special Protection Area

5.708 The application site is surrounded by, and not within, the Caithness and Sutherland Peatlands Special Protection Area (SPA)³⁰⁸. Classified in 1999, the SPA is underpinned by 39 Sites of Special Scientific Interest. As stated in the SPA citation “the peatlands, and the surrounding moorland and open water, are of international importance for conservation because they support a diverse range of rare and unusual breeding birds”³⁰⁹.

5.709 The qualifying species of the Caithness and Sutherland Peatlands SPA are: black-throated diver; common scoter; dunlin; golden eagle; golden plover; greenshank; hen harrier; merlin; red-throated diver; short-eared owl; wigeon; and wood sandpiper.

5.710 The conservation objectives for the Caithness and Sutherland Peatlands SPA are:

(1) To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained.

(2) To ensure for the qualifying species that the following are maintained in the long term:

- i. Population of the species as a viable component of the site.
- ii. Distribution of the species within the site.
- iii. Distribution and extent of habitats supporting the species.
- iv. Structure, function and supporting processes of habitats supporting the species.
- v. No significant disturbance of the species.

5.711 Many of the terms contained within the conservation objectives for the site are not defined, including “significant disturbance”; “integrity”; “long term”; “viable component”; and “distribution”. When questioned each ornithologist witness had a different opinion (which

³⁰⁸ Caithness and Sutherland Peatlands SPA map. [RSPB A2b]

³⁰⁹ Caithness and Sutherland Peatlands SPA citation. [RSPB A2a]

reflected their respective positions) in relation to what these terms meant in terms of the qualifying species and the proposed development. It was expressed, and I agree, that - on some level - the application and assessment of any impacts on the qualifying species is a matter of professional judgement when presented with the facts and evidence. I return to this matter at the conclusion of these findings.

Non-qualifying species

5.712 The environmental information submitted by the applicant identifies no indication of any potential harm or disturbance to whooper swan; white-tailed eagle; osprey; fieldfare; redwing; red-backed shrike; brambling; common crossbill; peregrine falcon; and snow bunting. There is no objection from Scottish Natural Heritage (SNH), the Highland Council (THC) or RSPB Scotland with regard to these species. Therefore, I consider it unlikely that the above named bird species would be harmed or disturbed by the proposed development.

Narrowing the scope in relation to qualifying species

5.713 Ornithological survey work, analysis and assessment has been an iterative process between the applicant and SNH. This is clearly evidenced from the 2007 ES, the 2013 ES addendum, the 2014 FIR, inquiry session topic papers, and correspondence between the parties.

5.714 The latest consultation response from Scottish Natural Heritage (SNH) dated 8 January 2015³¹⁰ states in relation to black-throated diver; golden eagle; golden plover; dunlin; merlin; short-eared owl; wigeon; and common scoter that it is unlikely that the proposal would have a significant effect either directly or indirectly on these qualifying interests of the SPA. This response followed updated responses from the applicant (including deleting turbines to mitigate any impact on black-throated diver) and revised guidance from SNH (particularly in relation to golden eagle). On the basis of the submitted environmental information, and the response from SNH (the national conservation body), I agree that the proposed development would be unlikely to have a significant effect on the SPA so far as these qualifying species are concerned.

5.715 SNH also advised on 8 January 2015 that with the deletion of turbine 51 the proposed development would be unlikely to have a significant effect either directly or indirectly on wood sandpiper. However, RSPB Scotland maintained its objection in relation to this qualifying species. Consequently, the species was subject to investigation through the inquiry process. My findings about wood sandpiper are set out below.

5.716 In the same correspondence SNH also considered that the proposed development would be likely to have a significant effect on hen harrier. An appropriate assessment was advised and the view given that the expected collision rate of 1 bird every 9.09 years (0.11 per annum at 99% avoidance) would not have a detectable impact on the size of the SPA population. There would be no adverse effect on the integrity of the site. This was not the view of RSPB Scotland. Consequently, hen harrier were subject to the inquiry process. Again, my findings on this species are set out below.

5.717 The response from January 2015 also contained an objection from SNH in relation to the remaining two qualifying species of the SPA: greenshank and red-throated diver. In its

³¹⁰ Scottish Natural Heritage response dated 8 January 2015. [SNH R-5]

considered view the proposed development would be likely to have a significant effect on both these species such that there would be an adverse impact on the integrity of the SPA. Permanent displacement and assumed loss of divers was anticipated. Also, the predicted collision mortality of divers was, at that time, uncertain. In addition, it was suggested that there would be a possible (and unquantified) collision risk to greenshank. The population viability of both species could be at risk from the proposal – a concern also expressed by RSPB Scotland. Both these qualifying species were subject to the inquiry process. My findings on red-throated diver and greenshank are set out below.

Red-throated diver

5.718 The general characteristics of red-throated diver are usefully provided by RSPB Scotland³¹¹. A detailed account of the species in relation to the Caithness and Sutherland Peatlands SPA is also given in the 2013 ES addendum³¹².

5.719 Taking figures from the 2013 ES addendum, the estimated population of red-throated diver in the Scotland is some 1,255 pairs, with around 39 breeding pairs within the SPA. This is the equivalent to an average density of 6.1 pairs per 100 square kilometres within the SPA³¹³. SNH suggests that the number of breeding pairs within the SPA is now 46 pairs.

5.720 The applicant has noted that the birds are in favourable conservation status. SNH agrees that the population of the SPA is stable.

5.721 Information on red-throated diver in and around the application site was collected by SNH from 1991 to 2006; and collated in document SNH O-48. In addition to this the applicant has gathered data from 2003 to 2014 in relation to the application site over six breeding seasons (2003, 2004, 2007, 2010, 2012 and 2014). SNH has questioned the survey effort for the years 2003 and 2004 (but agrees that the surveys complied with guidance at that time) but notes that the survey effort in 2007, 2010 and 2012 was more intensive. I also note that extensive survey effort was conducted in 2014 specifically targeted to address the concerns of SNH.

5.722 SNH guidance from 2014 recommends surveys to be conducted during the breeding season (late April to August inclusive) for two breeding seasons³¹⁴. The recommendation is that a minimum of 36 hours of observation are conducted from each vantage point in both the breeding and non-breeding parts of the season. The guidance advises vantage point surveys be conducted over shorter periods (3 hours) more regularly (12 times).

5.723 The level of survey effort is unprecedented in relation to other wind farm data collection³¹⁵. A total of 2,481 hours of vantage point surveys have been carried out at Strathy South, of which some 1,984 hours were conducted during the breeding season (from six or eight vantage points). In addition, over 700 hours of bespoke diver vantage point watches were completed since 2007. The timing of the surveys also covered sunrise to sunset over the months April to August. The surveys conducted covered the entire application site, as well as directed diver survey work at specific lochs/lochans. In

³¹¹ RSPB Ornithology Topic Paper – Red-throated diver – Pages 17-21. [RSPB D23]

³¹² ES Addendum, Technical Appendix A11.4, pages 9-11. [CD 4.4]

³¹³ ES Addendum, Technical Appendix A11.4, page 17. [CD 4.4]

³¹⁴ SNH bird survey methods 2014. [SNH O-30]

³¹⁵ RPS (2015i) An assessment of survey effort at Strathy South Wind Farm. [SSE_11.133]

comparison, the consented Strathy North Wind Farm covered 4 breeding seasons with some 743 hours of vantage point surveys. I consider that the number of surveys; the timing of surveys; and the duration of survey work to inform the proposal are satisfactory.

5.724 SNH raised concerns about the location of vantage points. It was apparent from the cross-examination that SNH were not entirely familiar with the locations of surveys undertaken. The applicant's witnesses displayed confidence throughout by having a clear understanding of the vantage points, an overview of the application site, views obtained, and methods to limit error. Having visited the site on two occasions (accompanied and unaccompanied) I consider that the locations of the vantage points were satisfactory to enable a clear view of the airspace or features of relevance – be it to view flight activity or use of lochs/lochans – without interference from trees or landform.

5.725 Similarly, I explored with the applicant's witnesses the "safeguards" put in place to ensure that the likelihood of observer disturbance was minimised. Professional ornithologists experienced in vantage point surveys were used. Those undertaking surveys included a "bedding-in period" before beginning surveys (so any disturbed birds could return). A similar practice was used if a comfort break was required. Having regard to those safeguards I consider that there is a low likelihood that observer disturbance would have created any under-recording of activity or under-estimation of bird presence.

5.726 SNH's January 2015 response included a concern about collision risk³¹⁶. However, in its response to the further environmental information³¹⁷ the risk of collision was not considered to be significant. SNH's topic paper by Dr Douse³¹⁸ introduces a cumulative collision issue, noting that SNH objected to the proposed Strathy Wood Wind Farm due to the collision risk for red-throated diver. The suggestion being that should red-throated divers continue to use [REDACTED] then the risk of collision from the Strathy Wood site would increase but, conversely, should the birds be disturbed by the Strathy South proposal then the risk of collision would decrease in relation to the Strathy Wood proposal.

5.727 Red-throated diver generally fly between 10 and 100 metres high with a steady speed when levelled out (of around 18 metres per second). The general flying height of the divers would place them at collision risk height with the proposed turbines. However, it is agreed with parties, and I agree, that red-throated divers are particularly averse to wind farms. From the examples provided (Carraig Gheal, Smøla, and Burgar Hill wind farms) it is clear that red-throated diver do not fly over or through constructed wind farms. In support of this position, I note that the collision avoidance rate for wind farms is currently 98% but, based on a recent review on red-throated diver avoidance³¹⁹, this figure could be revised to 99% (still described as precautionary) and even 99.5% (again, described as precautionary).

5.728 The applicant has predicted that on average 0.14 red-throated divers would collide with the proposed turbines each year. This figure is not disputed. This equates to 3-4 birds over the 25 year operational lifetime of the proposed development; which would represent 3.7% of the current SPA breeding population of 46 pairs. However, there are estimated to be 97 non-breeding birds present in the SPA during the breeding season. If

³¹⁶ SNH January 2015 response. [SNH R-5]

³¹⁷ SNH further environmental information response.

³¹⁸ SNH Topic Paper. [SNH O-52]

³¹⁹ Report on Diver and Skua avoidance rates. [SNH 0-6]

these birds were included in the calculation then the loss of red-throated diver (3-4 birds) would equate to 1.8% of the SPA population (breeders and non-breeders)³²⁰. I note that the above calculations are based on the 98% avoidance rate; use of a 99% avoidance rate would half the predicted collisions.

5.729 The applicant also predicts the collision impact in combination with Strathy North Wind Farm (built; 0.07 collisions per year), Bettyhill Wind Farm (built; 0.06 collisions per year) and Strathy Wood Wind Farm (application stage; 0.247 collisions per year)³²¹. Together with the proposed wind farm (0.14 collisions per year) the four wind farms would cause an estimated 13 red-throated diver collisions over their lifetimes (25 years). I note that there is an outstanding objection to Strathy Wood Wind Farm from SNH, and that it would represent around half the predicted red-throated diver collisions. I also note that the predicted collisions were based on the 98% avoidance rate. A 99% avoidance rate would half the predicted collisions to 7. It may also be the case that Strathy Wood is rejected or amended as a result of the SNH objection (or further survey information is obtained). In any case, the red-throated diver population is currently favourably maintained and not in decline. The high avoidance rate of red-throated diver, and the low rate of collision, mean that the proposed development alone, or in combination with other proposals, would not adversely affect the viability of the population of red-throated diver within the Caithness and Sutherland Peatlands SPA.

5.730 Turning to disturbance/displacement, I note that a 750 metre zone was established around turbines at the Carraig Gheal Wind Farm to avoid disturbance/displacement of red-throated divers³²². This distance gains support from 'A review of disturbance distances in selected bird species' published in 2007³²³. The report notes that red-throated diver have nested close to roads and buildings in both Iceland and Scotland (although no distance is given). Red-throated diver are also noted in the report to be agitated when commuting if they spot an observer on the ground (when less than 300 to 400 metres from a nest). It advises that, "on a precautionary basis, birds would apparently not show indications of disturbance by human activity on foot at 500-750 metres and the large majority are probably not disturbed when an observer is 500 metres away". A previous report by Currie and Elliot (published in 1997) recommended a preliminary safe working distance of 300-900 metres for this species (a report related to forestry practice).

5.731 I note that studies on the Smøla Wind Farm note that the nearest breeding pairs to the wind farm in one year (2007) [REDACTED]³²⁴. SNH rely on this distance as an absolute, with which I disagree as the study does not refer to actual distances and clearly states "the data available to date warrant only tentative conclusions" – none of which refer to a disturbance zone of 2 kilometres. The previously mentioned study at Carraig Gheal Wind Farm found that the presence of wind turbines within 1 kilometre did not deter red-throated divers from breeding. On the basis of the evidence, I consider that a distance of 750 metres is an appropriate indicator of potential disturbance to red-throated divers.

³²⁰ Technical appendix 5.2, Further Information Ornithology (T39 Layout). [CD 5.2]

³²¹ Cumulative impacts of wind farms in the surrounding area. [SSE_11.55]

³²² SNH further environmental information response (Annex 5).

³²³ A review of disturbance distances in selected bird species, Ruddock & Whitfield, 2007; pages 59 to 63 (red-throated diver). [SNH 0-29] also found at [SSE_11.62]

³²⁴ Red-throated diver at Smøla wind farm. [SNH 0-28]

5.732 The lochans in and around the application site are usefully produced in the ES addendum [REDACTED]³²⁵. SNH considers that the proposed development would cause disturbance/displacement of [REDACTED]

[REDACTED] Concern is also raised in relation to non-breeding birds commuting between lochans in close proximity to the existing forest edge.

5.733 [REDACTED] of the application site where the access track would be widened to carry heavy goods vehicles. The current access track provides access from Strathy Wood (to the north) to Strathy South forestry and is generally used by 4x4 vehicles. [REDACTED]

5.734 SNH is concerned that construction traffic and operational traffic would disturb, and therefore displace, a pair of breeding red-throated divers from this location. [REDACTED]

5.735 SNH notes that around 6,500 vehicle movements would be required over a two year construction period along this access track; as well as operational vehicle movements thereafter of a limited frequency. Forestry removal and decommissioning would also generate vehicle movements. Apart from visual disturbance, SNH is also concerned about noise, and vehicles being spotted by low flying divers.

5.736 [REDACTED]

[REDACTED] The vehicle generation and associated noise would be far greater than that currently experienced. However, I consider that the applicant's solution of abstaining from construction and vehicle movements during the breeding season at this location (and only commencing movements following close surveying of the lochan) would alleviate the concerns of disturbance to breeding birds at [REDACTED] from proximity, noise and agitation. Using such an approach would also limit the necessity for screening. This solution should be implemented through the construction environment management plan and breeding bird protection plan (to be imposed through condition 20; the wording of which has been agreed by SNH, the council and the applicant). [REDACTED]

[REDACTED] Therefore, I consider that there is no reasonable scientific evidence to suggest that a breeding pair of red-throated diver would be "lost" (as expressed by SNH) from the SPA population.

5.737 There was a confirmed breeding attempt at [REDACTED] in 2012. A non-breeding bird was spotted on the lochan in 2010. A camera was set up at the lochan for 137 days which

³²⁵ RPS Diver Loch Survey ID System. ES addendum. [CD_4.5]

captured two birds for a matter of hours on one day in May 2014. The SNH data from 1991 to 2006 shows a recorded red-throated diver at the location in 2006.

5.738 [REDACTED]

5.739 [REDACTED] Therefore, there is a chance of disturbance and displacement of any red-throated diver. Consequently, a primary question during the inquiry, and submission of evidence, was whether the site was regularly used by red-throated diver or as a “one-off”.

5.740 From the submissions I note that red-throated diver are generally site faithful. As evident from the various site surveys, and background documentation on red-throated diver behaviour, alternative lochans can be used for breeding but, again, generally the species tend to prefer high quality water bodies with easy access. [REDACTED]

5.741 [REDACTED]

5.742 To further support this position, [REDACTED], construction of the access track and turbines in the vicinity of the lochan should be conducted outwith the breeding season in the event that divers should be present (this should be implemented through the bird protection plan required in condition 20 [REDACTED])

[REDACTED] Consequently, I find that there is no reasonable scientific evidence to suggest that a breeding pair of red-throated divers would be “lost” to the SPA population (as suggested by SNH); or that the proposed development would lead to the loss of a confirmed breeding site for red-throated diver.

5.743 [REDACTED]

[REDACTED]

5.744 [REDACTED]

5.745 [REDACTED]

5.746 [REDACTED]

5.747 [REDACTED]

5.748 [REDACTED]

5.749 SNH is concerned that the proposed development would have a barrier effect which would prevent red-throated diver commuting to the sea and back from [REDACTED]; and that divers (including non-breeding birds) may be deterred from flying between lochans to feed.

5.750 [REDACTED]

I find that there is little evidence to suggest that the observed commuting patterns of red-throated diver to and from sources of food would be disrupted in any significant respect by the proposed development.

5.751 [REDACTED]

I consider that if red-throated diver using this route were to be disturbed by the presence of the proposed wind turbines on the east of the application site there would continue to be a route north and north-west available to them and that there is no reasonable scientific evidence that the proposed wind farm would act as a barrier to flight activity.

5.752 [REDACTED] recorded over the substantial survey period and even fewer over the proposed turbine locations. I therefore find that there is no

reasonable scientific evidence to suggest that the proposed development would give rise to a barrier effect.

5.753 SNH also raised the concern that in combination with Bettyhill Wind Farm, Strathy Wood Wind Farm, and Strathy North Wind Farm that the proposed wind farm would cause a significant barrier effect across the Flow Country. Bettyhill is located some 8 kilometres to the north-west (two turbines). Strathy Wood is not consented, but it together with Strathy North and Strathy South would form a linear grouping of wind turbines for around 10 kilometres from north to south.

5.754

I consider that the presence of turbines at Strathy South would not cause barrier effects to red-throated diver either alone, or in combination with other consented wind farms.

5.755 I note that the applicant has proposed rafts to aid breeding success on adjacent land owned by Ms Campbell (see chapter 7 on peat). This is commendable but is not required in order to mitigate against any displacement caused to red-throated diver.

5.756 In summary, I conclude that:

- Apart from the access tracks there would be no direct loss of habitat within the SPA. Parties are agreed that this is not significant.
- The predicted mortality as a result of collisions with turbines is very small and not of a magnitude that could have an adverse effect on the population of red-throated diver as a viable component of the SPA.
- For the reasons given above I do not consider that there would be any significant disturbance or displacement of red-throated diver, subject to the mitigation measures proposed during the breeding season³²⁶; nor do I consider that the proposed development, alone or in combination with other projects, would have a barrier effect that would inhibit red-throated diver from making flights between their nesting sites and the sea or other lochans.

5.757 For these reasons, in relation to the red-throated diver qualifying species, I am satisfied that the grant of consent would not adversely affect the conservation objectives for the SPA.

³²⁶ To manage construction and activity in proximity to breeding locations as controlled through the construction environment management document (condition 18); the bird protection plan (condition 20); and the ecological clerk of works (condition 19).

Greenshank

5.758 The general characteristics of greenshank are usefully provided by RSPB Scotland³²⁷. A detailed account of the species in relation to the Caithness and Sutherland Peatlands SPA is also given in the 2013 ES addendum³²⁸.

5.759 Taking figures from the 2013 ES addendum, the estimated population of greenshank in the Caithness and Sutherland peatlands is some 1,082 pairs, with around 653 breeding pairs within the SPA. This is the equivalent to an average density of 0.4 pairs per square kilometre in the SPA³²⁹. SNH agree that the population is stable (in favourable conservation status).

5.760 SNH guidance from 2014 recommends surveys for upland and moorland waders (including greenshank) adopt an adapted Brown and Shepherd method with four survey visits at least seven days apart over a breeding season (mid April to early July), and be done between 8:30 and 18:00 hours³³⁰. It also notes that breeding can occur at different times depending on species and geographic location in Scotland. The recommendation is that a minimum of 36 hours of observation are conducted from each vantage point in both the breeding and non-breeding parts of the season. The guidance advises vantage point surveys be conducted over shorter periods (3 hours) more regularly (12 times).

5.761 The large survey effort carried out on the application site and surroundings is presented in paragraph 5.723 above. In relation to greenshank I note that further survey work was conducted in 2014 specifically to address concerns of SNH. This involved an additional 221 hours of vantage point survey work during the breeding season. A total of 51 surveys were carried out over four years (2007, 2010, 2012 and 2014) at 13 vantage points. This excludes data obtained in 2003 and 2004 (which amounted to some 216 hours of additional survey effort). The majority of the survey effort followed SNH guidance relevant at the time when the surveys were carried out. I appreciate that an adapted Brown and Shepherd survey was not carried out in 2014 (following updated guidance) but walkover surveys were used instead. I also agree with Dr Grant for the applicant who explained that breeding attempts can fall later in the north of Scotland (into May) and that flight activity (including displays) are not just confined to early morning but during daylight hours. The surveys conducted followed relevant guidance but, perhaps more importantly provide a representative sample of greenshank activity.

5.762 I consider that the significant time spent conducting surveys has given the applicant's ornithologists an intimate understanding of the site and its surroundings in relation to greenshank (and other bird species) use of the area. The purpose of survey work in 2014 was to gain further data on greenshank behaviour to supplement the collision risk modelling of concern to SNH. The amount of information obtained before 2014 meant that adapted Brown and Shepherd surveys were not required at that time; walkover surveys were sufficient as the ornithologists already had a good understanding of breeding, nesting and rearing sites.

5.763 Similar to red-throated diver, SNH raised concerns about the location of vantage points. In relation to greenshank I endorse my findings set out in paragraphs 5.724 to 5.725

³²⁷ RSPB Ornithology Topic Paper – Greenshank – Pages 35-38. [RSPB D23]

³²⁸ ES Addendum, Technical Appendix A11.4, pages 17-19. [CD 4.4]

³²⁹ ES Addendum, Technical Appendix A11.4, page 17. [CD 4.4]

³³⁰ SNH bird survey methods 2014. [SNH O-30]

above that the chosen vantage points provided adequate visibility and that the conduct of the surveys would be highly unlikely to cause disturbance to birds.

5.764 I note that SNH consider the surveys conducted in 2010 and 2012 are reliable. Overall, therefore, I find that the survey effort, methodologies, vantage point locations and ornithologists' conduct in avoiding disturbance are all satisfactory. The concerns related to the findings of the survey work are considered in later passages.

5.765 In presenting its own assessment of the impact of the proposed development on the conservation objectives of the SPA in relation to greenshank, SNH suggests in its topic paper³³¹ that all the conservation objectives but one would be met. Population viability being the only objective considered not to be met.

5.766 The findings from reports into the Achany and Rosehall wind farms indicate, and SNH agree with the applicant on this point, that greenshank are not likely to be displaced by wind turbines. Therefore, it is reasonable to find that greenshank using the application site and surroundings would not likely be disturbed and displaced but would continue to be active in the area. SNH's and RSPB Scotland's concerns related to the risk of collision with wind turbines.

5.767 A primary concern of the objectors is reliance on the survey findings. I discuss the role of the collision risk model below in relation to hen harrier. The model requires many inputs, including field data, before the predicted collision risk can be calculated. The vantage point surveys provided data on greenshank flight activity over the viewshed being observed. It is obvious that any manipulation of an input into the band model (collision risk model) can change the output, so the number of predicted collisions. SNH raised concerns about the observed greenshank in the range of observation closest to the observer (the 0-250 metre band range). The flight activity density (FAD) in this range was similar to that in the 500-1,000 range and lower than that in the 250-500 metre range. The applicant therefore excluded the 0-250 metre range as unreliable and included a distance detection correction in the ES addendum (as lower detection rates are known in similar bird species). This projected a collision rate of 0.06 or 1-2 greenshank over the lifetime of the proposed wind farm.

5.768 The 0-250 metre range FAD is acknowledged as being surprising by the applicant. However, I agree with the applicant that there are likely good reasons for the low FAD. For the reasons already stated, I do not agree with the unsubstantiated argument from SNH that ornithologists carrying out the vantage point surveys would have disturbed birds in the closest range. From the applicant's scientific research³³² I find favour with the finding that the habitat within the 0-250 metre range was inferior greenshank habitat to that in the 250-500 metre range (so less attractive). Furthermore, I note the behaviour characteristics of greenshank mean that it prefers wet habitat on lower ground near pool complexes; a location which would not be conducive to a successful vantage point lookout which were located on higher drier ground. It is therefore entirely plausible that the flight activity over the 0-250 metre range was accurately recorded.

5.769 In any event, the applicant recognised that a low FAD in the 0-250 metre range might call for further scrutiny. The vantage point work from 2014 returned a similar finding but

³³¹ SNH Topic Paper. [SNH O-52]

³³² RPS (2015b) An assessment of flight activity of greenshank in relation to collision risk modelling at Strathy South Wind Farm. [SSE_11.52]

with less statistical relevance. Therefore, golden plover was used as a surrogate (a bird of a similar size and behaviour). Data from the Viking Wind Farm on golden plover was used in the collision risk modelling alongside a distance detection correction factor. This provided a prediction of 0.142 greenshank collisions each year, equivalent to 3-4 greenshank collisions over the lifetime of the proposed wind farm (a figure which represents 0.28% of the mean SPA breeding adults of greenshank of 633 pairs).

5.770 Cumulatively, the proposed wind farm together with Strathy North is anticipated to result in 3.85 collisions over the lifetime of the two (0.30% of the SPA breeding adults). This calculation reasonably excludes Strathy Wood as it had insufficient survey data³³³ for greenshank.

5.771 The calculation may also be overly precautionary as I note from the applicant's investigation of a Canadian database of 50 wind farms and of the European Bird Collision Database that only one bird from the same genus as greenshank has ever been recorded as colliding with a turbine (in Canada). Collision risk therefore appears to be very low for this species. This finding is reinforced by the fact that no carcasses have been found in post-construction monitoring in Scotland. I accept that there may be reasons for none being found, as it depends on the monitoring being undertaken, and whether the birds have been eaten, thrown or decomposed for example. In any case, the fact that there is only one record of collision internationally is compelling.

5.772 I find that the applicant's explanation of the survey work undertaken; the reasoning behind low FAD in the 0-250 metre range plausible; and the rationale and scientific rigour given to analysing and amending the collision risk modelling is comprehensive. Based on the evidence presented, I do not consider that there is any real risk that the proposal alone, or in combination with other wind farms, would have an adverse impact on the greenshank population as a viable component of the SPA.

5.773 In November 2014 SNH suggested that collision risk was significantly underestimated and suggested either the applicant: (1) consider further work on collision modelling; or (2) provide an 800 metre buffer around greenshank territories and delete turbines in those areas³³⁴. It appears entirely reasonable that the applicant followed that advice and provided updated collision modelling work, which I have found to be acceptable, robust and fit for purpose. However, SNH replied in January 2015³³⁵ (in response to the 2014 FIR) that there would be an estimated 10 to 12 breeding territories within 800 metres of proposed turbines and therefore a possible (and unquantified) collision risk to greenshank. The argument over a buffer was dropped from SNH's topic paper to the inquiry but a separate argument was run, with SNH providing its own modelling work, that colonisation of the application site would occur, therefore increasing the activity of greenshank and the species collision risk³³⁶.

5.774 Where there was reasonable uncertainty with respect to greenshank collision risk modelling then I accept that the approach previously suggested by SNH to use 800 metre buffers would provide a suitable, if over precautionary, solution to the protection of the birds.

³³³ RPS (2015c) Cumulative impacts of wind farms in relation to red-throated diver, greenshank, wood sandpiper and hen harrier at Strathy South Wind Farm. [SSE_11.55]

³³⁴ SNH 20 November 2013 response. [SNH R-4]

³³⁵ SNH 8 January 2015 response. [SNH R-5]

³³⁶ Greenshank collision mortality estimates. [SNH 0-44]

However, I have found the collision risk estimates to be based on sound reasoning and evidence which is sufficient to demonstrate a high level of certainty.

5.775 Turning to the issue of greenshank colonisation. In response to my questioning during the inquiry Dr Zisman agreed that, as restoration advanced, suitable habitat could be created that would be “attractive” to greenshank within the application site. Consequently, I note that a correlation between restoration and greenshank territory creation could exist. Although frustrating for the applicant to be faced with a further concern very late in proceedings, attracting more greenshank into the application site would change the collision estimate. It would be prudent to pursue the issue at whatever stage in proceedings it was raised. Therefore, it was correct for SNH to raise the matter.

5.776 There are several factors that would influence whether the application site was colonised (and therefore used to a greater degree than at present). These are explored below.

5.777 The question I asked of Dr Zisman omitted reference to a time frame. The applicant is correct that there is no evidence to predict if, and over what period, a cleared site could become attractive to greenshank. I also note the applicant’s argument that neither of the objectors referred to experiences, or submitted evidence, from the adjacent RSPB Fosinard site (successfully restored from previous woodland) in relation to this matter.

5.778 The applicant is right to highlight that the objectors have submitted no examples of greenshank colonising other sites. There is no evidence from Achany or Rosehall that greenshank have actively colonised operational wind farms. Based on the international experience of collision (paragraph 5.771) I do not agree with SNH’s assertion that this could be due to a lack of carcass monitoring.

5.779 I agree with SNH’s suggestion that any colonisation would be from non-breeding or juvenile birds, as breeding birds are relatively faithful to breeding and nesting sites. I also agree with SNH that there are no known examples of habitat management being used successfully to dissuade greenshank from a wind farm site.

5.780

I favour the applicant’s argument that there is no evidence through post-construction monitoring of greenshank colliding with turbines at Achany Wind Farm or with juveniles colonising the Achany and Rosehall wind farm sites. These wind farms are located in close proximity to the edge of Grudie Peatlands SSSI, which has the highest density of greenshank in the SPA. There are also other areas of more suitable greenshank habitat in other areas of the SPA.

5.781 On the basis of the evidence, I find that there is no reasonable scientific evidence to suggest that juvenile (or other non-breeding) greenshank would be likely to colonise the application site. In the unlikely situation that colonisation were to occur then the evidence suggests a high avoidance rate – this point is supported by the suggestion in the SNH

³³⁷ RPS (2015d) Habitat suitability and greenshank distribution relating to Strathy South Wind Farm. [SSE_11.56]

colonisation report that the 98% avoidance rate for greenshank is possibly overly precautionary.

5.782 I now assess SNH's collision model. In discussing collision risk modelling, a paper by Dr Band and others on 'Developing field and analytical methods to assess avian collision risk at wind farms'³³⁸ notes that "for some species it may be possible to estimate flight activity reliably using predictive models derived from studies elsewhere" with reference to studies on hen harrier and golden eagle. However, it recommends that "these generic models are probably a good starting point on which to base impact assessments but their accuracy is likely to be improved considerably by the inclusion of site-specific information on bird activity patterns. Moreover, there is insufficient knowledge of most species to develop predictive models, and therefore site-specific observations are essential".

5.783 SNH's own guidance on collision risk modelling³³⁹ also recommends that "for good results the data available should be based on actual observations within the area of the wind farm (provided the observation is done without disturbance), and the best results will be based on observational data about flight heights". It does go on to suggest that in the absence of such observations estimates could be used. SNH guidance on bird surveys also notes that vantage point surveys provide data to estimate the collision risk³⁴⁰.

5.784 The MacArthur Green report commissioned by SNH is primarily based on published literature of observations and studies on greenshank behaviour and activity. An interview was also conducted with Professor Des Thompson to inform the report. The literature and interview responses provide the parameters used to calculate, in a novel way, an alternative collision risk estimate. The inputs include the predicted density of greenshank using the application site following colonisation; standard flight lines; flight speed; typical flight heights and so on. The majority of the data chosen is assumed to be correct.

5.785 The report provides a theoretical basis to estimate collision risk. To do so it is required to make many assumptions many of which it openly states there is only "moderate" strength of evidence to support. The report estimates, with colonisation of the site, there would be between 10 and 19 collisions per year (98% avoidance rate). It considers that the avoidance rate is highly precautionary in this case so a 99% avoidance rate would provide between 5 and 9 collisions per year. I calculate that would mean some 125 to 225 greenshank fatalities during the lifetime of the proposed wind farm (some 10 to 18% of the current SPA breeding adult population).

5.786 Therefore, if the report's findings were accepted there would be a significant discrepancy between the applicant's predicted number of mortalities (3-4) to SNH's (125-225) over the lifetime of the wind farm.

5.787 However, I agree with the applicant that the high collision rate estimated by the SNH commissioned report is unrealistic when compared to evidence in the field.

5.788 I have found that the applicant has carried out a significant amount of survey work, in the right location at the right times, to obtain an intimate understanding of the greenshank (and other birds) using the application site. A substantial body of site-specific, in the field, evidence has been gathered. There is no reasonable evidence of observer disturbance and

³³⁸ Developing field and analytical methods to assess avian collision risk at wind farms. [RSPB D1]

³³⁹ Windfarms and birds – calculating collision risk. [SNH O-5]

³⁴⁰ SNH Bird survey methods 2014. [SNH O-30]

the closest habitat to vantage points has been shown not to be as suitable to greenshank as the 250-500 metre range. Nevertheless, the 0-250 metre data was substituted with that from a surrogate species, and a distance detection correction was made. The applicant's calculation of collision risk on this basis is sound. I also found that there was no reasonable evidence to conclude that greenshank would colonise the application site.

5.789 Alternatively, the MacArthur Green report does not follow Dr Band's or SNH's guidance in relation to using site-specific evidence. It uses observations, and not (as expressed by the applicant) scientific resources for many of the inputs. It assumes colonisation and makes assumptions about territory creation. It also does not account for any time-delay should colonisation occur. Furthermore, it fails to mention survey work undertaken in 2014 by the applicant specifically undertaken to inform the collision risk modelling work.

5.790 In conclusion on this matter, I find that there is no basis to prefer the estimate provided by SNH of greenshank mortalities. It provides an alternative conclusion but one which I find does not fit with the realities of the survey work undertaken or examples from other wind farms. I prefer the evidence of collision risk provided by the applicant.

5.791 In summary, I conclude that:

- There would be no deterioration of the greenshank habitat within the SPA. This is agreed as not significant by parties.
- The predicted mortality as a result of collisions with turbines is very small and not of a magnitude that could have an adverse effect on the population of greenshank as a viable component of the SPA.
- For the reasons given in my findings above I do not consider that there would be any significant disturbance or displacement of greenshank. This is again agreed as not significant by parties.

5.792 For these reasons, in relation to the Greenshank qualifying species, I am satisfied that the grant of consent would not adversely affect the conservation objectives for the SPA.

Hen harrier

5.793 The general characteristics of hen harrier are usefully provided by RSPB Scotland³⁴¹. A detailed account of the species in relation to the Caithness and Sutherland Peatlands SPA is also given in the 2013 ES addendum³⁴².

5.794 Taking figures from the 2013 ES addendum, the estimated population of hen harrier in Scotland is some 633 territorial pairs, with around 14 breeding pairs within the SPA. However, a 2009 SNH estimation considered 20 pairs in the SPA. There is an average density of a pair per 100 square kilometres within the SPA³⁴³. A further overview of the

³⁴¹ RSPB Ornithology Topic Paper – Hen harrier – Pages 25-30. [RSPB D23]

³⁴² ES Addendum, Technical Appendix A11.4, pages 13-15. [CD 4.4]

³⁴³ ES Addendum, Technical Appendix A11.4, page 17. [CD 4.4]

species is provided in the 'Hen harrier interactions with operational wind farms and response to RSPB objection' report³⁴⁴.

5.795 The site condition of qualifying species, reviewed by SNH, suggests that the hen harrier qualifying species population is favourably maintained.

5.796

[REDACTED] The significant amount of data collected over this period includes targeted raptor surveys and records of hen harrier observed during other surveys. Information from nearby wind farms (Strathy North and Strathy Wood) and data from the Highland Raptor Study Group was also included. I note that the surveys followed relevant SNH guidance on methodology and collection of data, amending practice according to newly published guidance over the extended period of data collection. The applicant has provided sufficient justification for its survey practice, including timing of surveys, methodology, and acknowledgement of prey abundance.

5.797 I note that SNH has raised no concerns about the quality or level of survey effort undertaken with respect to hen harrier. I find that the applicant has collected more than sufficient survey data (much of it collected on-site) related to hen harrier.

5.798 The survey data (including breeding sites and flight activity) are key inputs to calculate collision risk modelling (CRM). Following my conclusion above, I consider that the field data collected is adequate and therefore the modelling would not result in an under-estimation of collision risk.

5.799 A further area of dispute between the applicant and RSPB Scotland in relation to CRM is the flight speed input. SNH guidance on this matter³⁴⁵ observes that "collision probability is particularly sensitive to changes in flight speed when values are low; at higher flight speeds changes in collision risk are less marked". The applicant used a mean flight speed for hen harrier of 9.1 metres per second; but a range between 8.3 m/s and 11 m/s were considered by parties to be typical of hen harrier flight activity. RSPB Scotland suggests, and I agree, that there is no real disparity in collision figures when any figure in this range is used.

5.800 However, when displaying, RSPB Scotland has highlighted that hen harrier can fly to a height of 130 metres and based on their display characteristics³⁴⁶ (involving 'skydancing' where the harrier enters a free fall toward the ground before sweeping upward to regain height at speed and can include rolls and turns) could reduce its speed to 1.85 m/s. Such a dramatic reduction in flight speed, if used as an input parameter in the collision risk model, would produce a large increase in predicted collision mortality for hen harrier.

5.801 The SNH guidance on 'Flight speeds and biometrics for collision risk modelling'³⁴⁷ acknowledges that use of a single value for flight speed poses a number of challenges, as bird flight speeds will vary depending on the bird characteristics and environmental factors. The guidance recommends using a mean flight speed, as the applicant has done. I note that the guidance refers to a mean when discussing flapping and gliding activity not display behaviour. However, the guidance states that "a slower (or faster) flight speed may be

³⁴⁴ Pages 4-5. [SSE_11.57]

³⁴⁵ Flight speeds and biometrics for collision risk modelling, SNH, October 2014. [RSPB D10]

³⁴⁶ Harriers of the world; Their behaviour and ecology. [RSPB F18]

³⁴⁷ Flight Speeds and Biometrics for Collision Risk Modelling, SNH Guidance Note. [RSPB D10]

used where there is good empirical evidence from vantage point watches that a particular flight behaviour predominates over other flight behaviours". Some display behaviour was recorded in the surveys, and this data informed the modelling undertaken by the applicant in relation to flight activity. However, this display behaviour was not predominant. Therefore, I find that the use of a mean flight speed of 9.1 m/s was appropriate. Again, in support of this finding, I note that SNH provide no criticism of the modelling carried out with respect to hen harrier.

5.802 The ES addendum calculated that the predicted annual mortality for hen harrier would be 0.11 (with a 99% avoidance rate). This calculation was based on the previous 47 wind turbine layout. The change to the proposed 39 wind turbine layout resulted in a reduction in the predicted annual mortality to 0.09, which would equate to one possible hen harrier fatality every 11 years. SNH consider³⁴⁸ that the proposed development would likely have a significant effect on hen harrier, and that an appropriate assessment would be required. In relation to the ES addendum annual mortality rate SNH considered that the proposed development would not have any detectable impact on the size of the SPA population; and therefore no impact on the integrity of the site.

5.803 I note that the ES addendum highlights that the presence of woodland over the application site would elevate the flight height of hen harrier foraging compared to moorland flight height, and that the woodland encouraged more flight activity. Therefore, the removal of the woodland is anticipated to further reduce the collision risk to hen harrier. I accept that this could be the case in combination with appropriate habitat management practice (sward height management to discourage breeding attempts close to turbine locations) controlled through imposed conditions 20 and 23.

5.804 I appreciate that in restoring the application site to blanket bog and other peatland habitat (brash) it could become attractive to hen harrier, particularly for breeding. However, I consider, along with SNH, that sward height management could be successfully implemented (and revised if necessary) through conditions and habitat management. The area to be managed would likely only amount to 2% of the whole application site – a reasonable area to be maintained successfully – and would likely only require management for the first five years.

5.805

However, the habitat lost would be inconsequential based on the wide-ranging foraging behaviour of the species.

This beneficial action could be implemented through the habitat management plan as agreed with SNH through condition 23.

5.806 In combination with other wind farms in the Caithness and Sutherland Peatlands SPA there would be a predicted collision rate of 0.71 hen harrier per year, increasing the hen harrier adult mortality by 8.04%. Again, I note that the applicant anticipates a further reduction in the predicted mortality rate with the implementation of habitat management on each of the wind farms in the SPA.

³⁴⁸ SNH January 2015 response. [SNH R-5]

5.807 The applicant suggests that, drawing on experience of other wind farms, hen harrier are not particularly susceptible to collision. This appears to follow SNH collision risk modelling which gives a 99% avoidance rate for the species. I agree with the applicant that the studies relied upon by RSPB Scotland to challenge the collision assumptions are not relevant to the facts of this case. The Spanish case studies refer to griffin with different grouping and soaring behaviours than those of hen harrier; and refer to a different location with different environmental factors than the Northern Highlands of Scotland.

5.808 A further submission from RSPB Scotland relates to two hen harrier found dead at the Griffin Wind Farm. The proposition is that these hen harrier were killed as a result of collision with wind turbine infrastructure. As nobody actually witnessed any collision the only conclusion I can usefully form is that which follows the vet's assessment in carrying out the post-mortem; that the birds died from head trauma and they were found below a wind turbine. I cannot rule out collision with wind turbine infrastructure at that location. However, I note that the proposed wind turbines would have clearance of 8 metres between the ground and the blades greater than those at Griffin (so would allow foraging flight under them more readily). In any case, the fact is that there is no absolute certainty that the proposed wind farm would not kill hen harrier. The purpose of the collision modelling is to determine the predicted fatalities; and the purpose of construction management; habitat management; and breeding bird protection plans (all to be implemented in this case through conditions) are to help minimise the predicted rate of collision.

5.809 The Camster Wind Farm study suggests that even if 7.5 female hen harrier were killed per year the population within the Caithness and Sutherland Peatlands SPA would remain stable³⁴⁹. This finding is restated in an SNH information note³⁵⁰ which confirms that when calculating the hen harrier population trajectory there was a demonstration "that a massive increase in the use of the wind farm site by hen harriers would be required before collision risk rose to a level that would adversely affect the integrity of the Caithness and Sutherland Peatlands SPA". I appreciate the Camster study was based on female hen harrier but also note that SNH's commissioned review of hen harrier³⁵¹ suggests "it seems probable that a hen harrier population can tolerate a larger increase in male mortality than female mortality".

5.810 From the above, I find that the predicted loss of one hen harrier every 11 years (0.09 per year) due to the proposed development, or the loss of 0.71 per year in combination with other wind farms, is sufficient to suggest that the SPA population of hen harrier would be maintained. This follows the advice from SNH in January 2015 which in relation to a higher predicted loss (for 47 wind turbines) stated that "we do not expect a collision rate of 1 bird every 9.09 years to have any detectable impact on the size of the SPA population and therefore conclude no adverse effect on the integrity of the SPA".

5.811 Turning to RSPB Scotland's concern about displacement of foraging hen harrier, the case of 'Bowland Betty' – the hen harrier tagged and tracked from Northern England to Orkney via the Flow Country – demonstrated the range of the species. However, I agree with the applicant that in presenting a one-way trip of the bird no direct correlation between low hen harrier numbers in Northern England (through persecution) and any population decline in Northern Scotland (from wind turbines) could be successfully deduced.

³⁴⁹ Assessment of effects of the proposed Camster Wind Farm on hen harriers and merlins. [RSPB F24] and [SSE_11.86] and [SSE_11.110]

³⁵⁰ SNH (2012b) Post-construction management of wind farms on clear-felled forestry sites. [SSE_11.96]

³⁵¹ A review of the impacts of terrestrial wind farms on breeding and wintering hen harriers. [SSE_11.31]

5.812 There are no recorded hen harrier nesting sites located in close proximity to the proposed wind turbines. In any case, the Haworth and Fielding review commissioned by SNH³⁵² summarises in relation to hen harrier that: there appear to be few documented cases of collision mortality; the low levels of collision mortality appear to be at least partially related to the predominately low flight heights; a study³⁵³ suggests that hen harriers avoid flying within 250 metres of turbines, leading to a 53% reduction within 500 metres of turbines; and that there is little evidence for an impact of wind farms on hen harrier nesting. The overall conclusion from this review is the agreement of the authors “with what appears to be the global consensus, i.e. hen harriers experience some small scale displacement but generally there are no significant large scale impacts caused by wind farms”. I therefore consider that the proposal would be highly unlikely to disturb or displace foraging hen harrier.

5.813 In summary, I conclude that:

- Apart from some access track, there would be no direct loss of habitat within the SPA. In addition, there is an opportunity through peatland restoration to provide suitable hen harrier habitat in the north-west of the application site. Parties are agreed that habitat loss is not significant.
- Subject to the imposition of a condition on sward height management, the predicted mortality as a result of collisions with turbines is very small and not of a magnitude that could have an adverse effect on the population of hen harrier as a viable component of the SPA. This conclusion is supported by SNH.
- Having regard to the distance of the proposed wind farm from the known nesting sites, the evidence presented to the inquiry does not suggest that there would be any significant disturbance or displacement of hen harrier. SNH did not raise any concerns about displacement/disturbance of hen harrier.

5.814 For these reasons, in relation to the Hen Harrier qualifying species, I am satisfied that the grant of consent would not adversely affect the conservation objectives for the SPA.

Wood sandpiper

5.815 The general characteristics of wood sandpiper are usefully provided by RSPB Scotland³⁵⁴. No detailed account of the species in relation to the Caithness and Sutherland Peatlands SPA is given in the 2013 ES addendum³⁵⁵ as “occasional infrequent observations of wood sandpiper comprised mainly single birds considered to be on passage. No breeding of this conspicuous wader was recorded at any point on the site or within any survey buffers”. However, an overview is provided in the applicant’s wood sandpiper report of 2015³⁵⁶.

³⁵² A review of the impacts of terrestrial wind farms on breeding and wintering hen harriers. [SSE_11.31]

³⁵³ Distribution of breeding birds around upland wind farms. [SNH O-1] or [RSPB D18]

³⁵⁴ RSPB Ornithology Topic Paper – Wood sandpiper – Pages 41-44. [RSPB D23]

³⁵⁵ ES Addendum, Technical Appendix A11.4, page 25. [CD 4.4]

³⁵⁶ Wood Sandpiper and Strathy South Wind Farm, pages 6-7. [SSE_11.59]

5.816 Taking figures from the applicant's wood sandpiper report³⁵⁷, the estimated population of wood sandpiper in the Caithness and Sutherland Peatlands is some 1 to 5 pairs during the breeding season.

5.817 The status of the wood sandpiper species within the Caithness and Sutherland Peatlands SPA is identified as being "favourably maintained". In other words, the population is not in decline.

5.818 Ornithological surveys were carried out in six breeding seasons following relevant SNH guidance for this species (2003, 2004, 2007, 2010, 2012, and 2014). There were no sightings in 2004. [REDACTED]

5.819 [REDACTED]

5.820 [REDACTED]

5.821 RSPB Scotland suggest that wood sandpiper can fly up to 300 metres high when displaying over territory; and can fly as far as 800 metres to repeat the display³⁶¹.

5.822 I appreciate that wood sandpiper is an extremely rare bird in the Scottish context, and in relation to the Caithness and Sutherland SPA. A cautious approach, as promoted by

³⁵⁷ Wood Sandpiper and Strathy South Wind Farm. [SSE_11.59]

³⁵⁸ ES addendum, confidential annex, figure A11.1.30. [CD 4.5]

³⁵⁹ SNH consultation response dated 20 November 2014. [SNH R-4]

³⁶⁰ A Review of Disturbance Distances in Selected Bird Species. [RSPB D14]

³⁶¹ RSPB Scotland Topic Paper [RSPB D23] and Birds of Europe, the Middle East and North Africa - The Birds of the Western Palearctic Volume 3 [RSPB G9].

RSPB Scotland, to any risk of disturbance, displacement or loss is therefore understandable.

5.823 I consider that the survey effort for this species is adequate (covering six breeding seasons). Species specific surveys were also carried out. The applicant and RSPB Scotland disagree on the recording of the wood sandpiper sightings, as to whether those birds recorded were possibly, probably or confirmed as breeding. Analysing the wood sandpiper records³⁶² against the Rare Breeding Birds Panel advice³⁶³ [REDACTED]

5.824 The applicant notes that general flight of the wood sandpiper is below 10 metres above the ground. This is not in dispute. However, RSPB Scotland notes the higher altitude in which wood sandpiper fly when displaying. I note from the 'Handbook of the Birds of Europe, the Middle East and North Africa'³⁶⁴ that display flights by both sexes are generally between 10 and 100 metres high but that up to 300 metres has been recorded. Therefore, in general flight wood sandpiper would fly below the blades of the proposed wind turbines which would rotate some 31 metres above the ground (83 metre hub height – 52 metre blade). However, when in display flight it would be possible for a wood sandpiper to fly into a height where collision could be a risk.

5.825 RSPB Scotland suggests that wood sandpiper could fly up to 800 metres between displays. This figure is unattributed in literature. What the handbook (document G9) describes are observations in Scotland of wood sandpiper flying straight and fast to other locations "several hundred metres away and performs again, thus repeating performance at different sites 4-5 times". Another reference within the handbook refers to a single observation where a wood sandpiper pair circled together in a diameter of some 300 metres.

5.826 I return to SNH's consultation response which indicates that there is no evidence on wood sandpiper collision or good evidence on display flight heights. [REDACTED]

[REDACTED] It would be inappropriate to suggest the exclusion of all proposed turbines within an arbitrary buffer of sites where wood sandpiper individuals were spotted. On the basis of the evidence I find that it would be highly unlikely that wood sandpiper would be at risk of collision from the proposed development.

5.827 RSPB Scotland is correct to highlight that the disturbance and displacement report produced for SNH in 2007³⁶⁵ is based on approaching humans or encroaching human activities. The report suggests that for wood sandpiper the upper limit of disturbance distance was 150-300 metres. The report notes that this distance is markedly less than the recommendation in another report from 1997 (Currie and Elliot) which identified a range

³⁶² Wood Sandpiper and Strathy South Wind Farm, Table 1. [SSE_11.59]

³⁶³ Rare Breeding Birds Panel: Recording Guidelines for Wood Sandpiper. [RSPB G6]

³⁶⁴ Birds of Europe, the Middle East and North Africa - The Birds of the Western Palearctic Volume 3. [RSPB G9]

³⁶⁵ A Review of Disturbance Distances in Selected Bird Species. [RSPB D14]

of 200-600 metres when involved in forestry activity. I note that the 2007 report urges caution in comparing the two studies as they were conducted for different purposes. However, the 2007 report states that “as the present study included an attempt at validation and was explicit in its sources and methods, we suggest that the present study may form a more objective basis for assessment of minimum approaching distance and, potentially, buffer zones”.

5.828 I understand that human activity and disturbance from construction, operation and decommissioning of a wind farm may result in different reactions in bird species. However, SNH (the principal conservation body) has accepted, and I agree, that the figure of 300 metres is accepted as the best evidence on this issue. This is at the upper end of the identified disturbance range. [REDACTED]

[REDACTED] I find that disturbance to wood sandpiper would be highly unlikely.

5.829 No loss of wood sandpiper habitat from development is predicted. Restoration of the application site could be beneficial to the species in the long term.

5.830 The ES addendum confirms that predicted effects on wood sandpiper “at Strathy South are negligible, and from the information provided by SNH, there are no other developments that have predicted effects on these species”³⁶⁶.

5.831 Having reviewed the evidence I find, in tandem with SNH and the applicant, that there would be no likely significant effect on wood sandpiper (a qualifying species) arising from the proposed development (or in combination with any other proposal or plan).

Assessment against the conservation objectives

5.832 Following the above conclusions, I find that there would be no impact from the proposed development on non-qualifying species of the Caithness and Sutherland Peatlands SPA. There would be no impact on the qualifying species of black-throated diver, common scoter, dunlin, golden eagle, golden plover, merlin, short-eared owl, and wigeon. These conclusions are not in dispute.

5.833 I concluded above, in relation to red-throated diver, that the loss of habitat within the Caithness and Sutherland Peatlands SPA would not be significant; that the predicted mortality as a result of collisions with turbines would be very small and would not be of a magnitude that could have an adverse effect on the population of red-throated diver within the SPA; and that there would be no significant disturbance or displacement of red-throated diver, subject to the mitigation measures proposed in the breeding season which I recommend should be the subject of a condition attached to the planning permission.

5.834 So far as greenshank are concerned, I concluded above that there would be no deterioration of the greenshank habitat within the SPA; that the predicted mortality as a result of collisions with turbines is very small and not of a magnitude that could have an adverse effect on the population of greenshank as a viable component of the SPA; and that there would be any significant disturbance or displacement of greenshank.

³⁶⁶ ES addendum, technical appendix A11.4 – An assessment of impacts from Strathy South Wind Farm on the qualifying birds of the Caithness and Sutherland SPA, July 2013. [CD 4.4]

5.835 My findings on hen harrier are that, apart from some access track, there would be no direct loss of habitat within the SPA; that, subject to the mitigation measures for sward height management which I recommended should be subject of a condition attached to the planning permission, the predicted mortality as a result of collisions with turbines is very small and not of a magnitude that could have an adverse effect on the population of hen harrier as a viable component of the SPA; and that there would be no significant disturbance or displacement of hen harrier.

5.836 On wood sandpiper I concluded above that there would be no likely significant effect on this qualifying species as a result of the proposed development.

5.837 To reiterate, the conservation objectives for the Caithness and Sutherland Peatlands SPA are:

(1) To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained.

(2) To ensure for the qualifying species that the following are maintained in the long term:

- i. Population of the species as a viable component of the site.
- ii. Distribution of the species within the site.
- iii. Distribution and extent of habitats supporting the species.
- iv. Structure, function and supporting processes of habitats supporting the species.
- v. No significant disturbance of the species.

5.838 So far as the first conservation objective is concerned, I am satisfied the proposed wind farm, whether on its own or in combination with other consented or proposed wind farms, would not result in the deterioration of habitats of the qualifying species nor any significant disturbance of the qualifying species.

5.839 So far as the second conservation objective is concerned, the issues of concern related to the population of the species (and to a lesser extent the distribution of species within the site) and disturbance of the species rather than concerns about the habitats which support the species (iii and iv). This conservation objective requires these to be maintained in the long term. For the reasons set out above, I am satisfied that the proposed wind farm, whether on its own or in combination with other consented or proposed wind farms, would not have an adverse effect on the population of the qualifying species as a viable component of the SPA nor result in any significant disturbance of the species. Therefore, I am satisfied that the proposed wind farm, whether on its own or in combination with other consented or proposed wind farms, would not have an adverse effect on the integrity of the Caithness and Sutherland Peatlands SPA. That conclusion is based on my assessment of the evidence presented to the inquiry from which I am satisfied that no reasonable scientific doubt remains as to the absence of such effects.

Summary of findings

5.840 The proposed development would not be of detriment to any non-qualifying species of bird or those qualifying species not in dispute. The only qualifying species in dispute are wood sandpiper, hen harrier, greenshank and red-throated diver.

5.841 I agreed with SNH that there would be no likely significant effect on wood sandpiper. However, I agree with SNH that, owing to potential effects on red-throated diver, greenshank and hen harrier an assessment, under Regulation 61 of the Conservation of Habitats and Species Regulations 2010, requires to be made of the implications of the project for the Caithness and Sutherland Peatlands SPA in view of the site's conservation objectives. For the reasons given above, and having identified all the aspects of the proposed development which, whether by themselves or in combination with other consented or proposed developments, could affect the conservation objectives of the SPA, I conclude that the proposed development would not have an adverse effect on the integrity of the SPA. That conclusion is based on my assessment of the evidence presented to the inquiry and I am satisfied that no reasonable scientific doubt remains as to the absence of such effects.

CHAPTER 6: IMPACT ON ECOLOGY

Evidence on ecological impacts

6.1 Key evidence with respect to ecological impacts includes:

- Chapter 10 (ecology) and associated figures within the 2007 ES³⁶⁷.
- Chapters A10 (ecology) and associated figures of the 2013 ES Addendum³⁶⁸.
- The 2014 Further Information Report, associated figures and technical appendices³⁶⁹.
- Written responses to a procedure notice³⁷⁰ on the impact on important plant life from the applicant³⁷¹ and Plantlife Scotland³⁷² (and objection to FIR³⁷³).
- Written responses to procedure notices³⁷⁴ on salmon and sea trout impacts from the applicant³⁷⁵; SEPA³⁷⁶; and the Northern District Salmon Fishery Board³⁷⁷.
- Written responses from NDSFB³⁷⁸.
- Consultation responses from SNH³⁷⁹.

Scope of evidence

6.2 At the pre-examination meeting it was agreed that matters concerning important plant life and protected species could be dealt with by written submissions. Plantlife Scotland, which did not attend the pre-examination meeting, were invited to respond to the written submissions but chose to rely on its written objection to the current 39 wind turbine proposal.

6.3 Objectors, see paragraph 1.18, expressed concern that the proposed development would pose a significant threat to otter, pine martin, water vole, and wildcat; and that run-off, chemicals and sedimentation would harm salmon, brown trout and eel. However, those in support suggested that any environmental or ecological impact would be minimal.

The applicant's position

Important plant life

6.4 Important Plant Areas (IPA) are non-statutory and have no significance or protection under either UK or European legislation. IPAs also have no protection under UK, Scottish

³⁶⁷ [Chapter 10 \(ecology\) of 2007 ES](#). [CD_2.2]

³⁶⁸ [Chapter A10 \(ecology\) of 2013 ES Addendum](#). [CD_4.2]

³⁶⁹ [FIR 2014, section 5.3 \(ecology\)](#). [CD_5.1]

³⁷⁰ [Procedure Notice 1 dated 12 February 2015](#).

³⁷¹ [Applicant's response dated 9 March 2015](#).

³⁷² [Plantlife Scotland response dated 9 March 2015](#).

³⁷³ [Plantlife Scotland objection dated 18 September 2014](#).

³⁷⁴ Procedure notices dated [12 February 2015](#) and [8 May 2015](#).

³⁷⁵ Applicant's responses dated [17 March 2015](#) and [Water Quality Monitoring Plan \(version 6, 2015\); 30 March 2015; and 22 May 2015](#).

³⁷⁶ SEPA responses dated [12 March 2015](#) and [18 May 2015](#).

³⁷⁷ NDSFB responses dated [16 March 2015](#) and [6 May 2015](#).

³⁷⁸ NDSFB objections dated [8 August 2007](#) and [25 October 2013](#).

³⁷⁹ SNH consultation responses dated [20 November 2013](#) and [8 January 2015](#). [SNH R-4 and R-5]

or council planning policy. They are simply a descriptive label used to identify areas considered important by Plantlife Scotland (a non-governmental body).

6.5 In 2007, Plantlife Scotland published a list of 150 IPAs in the UK using data collected from botanists. Further additions to these areas were made in 2009 following a review of additional data. Proposed areas and their associated data were assessed against three criteria to give the final core areas: (i) threatened species presence; (ii) botanical richness; and (iii) threatened habitat presence. Fifty-four IPAs are located in Scotland.

6.6 The Caithness and Sutherland Peatlands IPA covers much of the Flow Country peatland habitats, where deep peat deposits have allowed blanket mire vegetation to form a habitat listed as an Annex 1 Habitat under European legislation³⁸⁰. The application site lies adjacent to the IPAs core area and is thus described as a “zone of opportunity” by Plantlife Scotland. Zones of opportunity are areas where environmental conditions would be suitable for blanket mire to grow and where, with appropriate land management, bog plant communities could spread from the core areas. The proposed development, including forestry felling and restoration, would help to implement this objective. Therefore, Plantlife Scotland should view the proposal as a funded opportunity to deliver its objectives rather than a hindrance.

Protected species and habitat

6.7 Field surveys were carried out to inform the findings of the 2007 ES in relation to habitat and fauna. These surveys confirmed the presence of otter, pine martin and water vole at, and using, the application site for shelter and/or foraging. The surveys also indicated that wildcat were probably using the site. The site was considered to be of little or no value to badger or bats. Surveys also focused on two predominant species likely present in the River Strathy – salmon and brown trout. Following full compliance with mitigation measures, the 2007 ES predicted that the proposed construction and operation of the wind farm, and forestry removal, would result in no significant negative residual impacts on any designated site, habitat or protected species³⁸¹.

6.8 Updated surveys were conducted to inform the 2013 ES Addendum for otter and wildcat (European protected species) and water vole, badger and pine martin (UK protected species).

6.9 Detailed surveys were also undertaken for Atlantic salmon and sea trout species in 2007, 2009 and 2012. The salmon and trout surveys were undertaken to assess habitat suitability, identify obstacles to fish migration, and to describe fish species composition and distribution. These surveys included electric fishing at 31 locations in 2007 and a sub-set of eight out of the 31 locations in 2009 and 2012. In addition, aquatic invertebrate surveys were undertaken in 2007 at 16 sites in order to provide additional means of assessing potential effects on salmonid populations, water quality and water acidity.

6.10 The findings of the updated surveys were very similar to those presented in the 2007 ES and provide further indication of the distribution of use across the application site by the key species, namely otter, water vole and pine martin. The fish and aquatic invertebrate surveys highlighted the presence of key species throughout all catchments along with indications of key sections of the catchments with particular importance to each species.

³⁸⁰ [A plan of the IPAs in Caithness and Sutherland can be viewed on the Plantlife Scotland website \(external link\).](#)

³⁸¹ [See Tables 10.13 and 10.14 of the 2007 ES. \[CD_4.2\]](#)

The impact of development on designated sites (including the Caithness and Sutherland Peatlands SAC) and on protected species is not considered to be significant.

6.11 The 2014 FIR provided another updated assessment of predicted impacts. Habitat loss would remain low with the overall affect minor (not significant). Non-designated habitat loss of 66.87 hectares (reduced by 14% from the previous 47 wind turbine layout) would be moderate (significant) without mitigation. However, the long-term plans for peatland restoration and management to restore the area occupied by non-native, commercial forestry presents an opportunity to create a significant net environmental benefit in terms of peatland habitats.

6.12 In relation to otter, the reduction in proposed watercourse crossings would be beneficial. The overall predicted impact would remain not significant.

6.13 Similarly, for water vole the reduced number of crossings would be beneficial. The overall impact on this species would remain not significant.

6.14 In relation to pine martin, it is expected that the site would remain generally unsuitable; the removal of forestry would have the potential to remove suitable habitat for the species. However, the overall impact would remain not significant.

6.15 No signs of wildcat were found during the 2012 survey. However, areas of potential suitable habitat are located within the application site so the species cannot be ruled out completely. Pre-construction surveys would be undertaken to specially assess the potential of the identified areas to support wildcat populations.

6.16 Badgers have now been recorded within 150 metres of the proposed grid connection running through Strathy North Forest. Therefore, there is potential to impact the badger population at this location as a result of the 39 turbine proposal. However, the effects and predicted magnitude of significance remain unchanged to those in the 2013 ES Addendum (not significant).

6.17 In relation to fish species, the decrease in watercourse crossing numbers would reduce the likelihood of potential siltation, acidification and pollution risk. Ensuring appropriate mitigation is in place to avoid peat landslide into a watercourse the overall effect is considered to be not significant to fish. The draft Water Quality Monitoring Plan (WQMP) has been approved by SEPA. This plan would provide pre-construction, construction and post-construction biological and hydro-chemical monitoring within the River Strathy catchment.

6.18 Cumulative impacts remain as negligible/minor for all valued ecological receptors when the proposed development is considered alongside the constructed Strathy North Wind Farm and proposed Strathy Wood Wind Farm.

Salmon and sea trout – specific matters

6.19 Survey work carried out in 2007 is mentioned above. The baseline study compiled as part of the 2013 ES Addendum to assess the impacts on salmon and sea trout is complete and fit for purpose. It was conducted to the satisfaction of SEPA and Marine Scotland Sciences. Regular fish surveys were conducted to avoid year-on-year variations and to provide a robust scientific baseline.

6.20 The draft WQMP sets out the full scope of water quality monitoring (both biological and hydro-chemical) and has been tailored to take account of the intended construction programme and phasing of works within each part of the River Strathy catchment. Monitoring would comprise regular assessments of freshwater invertebrates, fish and hydrochemistry and would take place over three distinct periods: pre-construction, construction and post construction. SEPA and MSS have both stated they are satisfied with the draft WQMP. The final WQMP would be submitted to SEPA for agreement prior to commencement of construction works. The applicant understands that SEPA would then liaise with NDSFB as required in respect of the content of the WQMP. NDSFB has made no further mention of the suitability of the monitoring arrangements contained within the draft WQMP. Therefore, it is considered that the comments made in connection to the hydrochemical monitoring locations by NDSFB have been fully met during the drafting of the WQMP and the additional locations included in response to MSS comments. Accordingly, the hydrochemistry, freshwater invertebrates and fish monitoring arrangements are complete and fit for purpose and to the satisfaction of all consultees.

6.21 Potential impacts on water quality and fish have been previously been raised in connection with the woodland management proposed in relation to the proposed development. Of the 1,133 hectares of forestry on the application site it is intended that 230 hectares be harvested and 903 hectares be mulched. NDSFB has raised the issue of the potential impact on water quality and fisheries as a result of nutrient leaching from forestry mulching. It is acknowledged that there is no published data on the effect of mulching trees on the hydrochemistry of receiving waters. However, the impacts are predicted to be lower than the leaching effects of mulching brash alone due to the inclusion of a high proportion of mulched carbon from the woody material. This should act as a sink for the released nutrients and assist in the immobilisation and sequestration of any nitrogen and phosphorus released from the needles and bark in the brash. This would appear to be supported by hydro-chemical monitoring results from the Strathy North Wind Farm, which was subject to similar forestry operations and has recorded no increase in nitrate or ammoniacal nitrogen in the receiving waters during the period these operations were undertaken. The monitoring of phosphate in the receiving waters at Strathy North suggests that there has been an increase in concentration in minor watercourses draining part of the Strathy North site and that this was probably due to the felling of conifers, both conventional and mulching. The effect on the hydrochemistry of the River Strathy itself was either not detectable or minimal.

6.22 It is noted that there has been no significant decline in pH of the watercourses draining the Strathy North Wind Farm since the beginning of felling where on average the pH has gone from 6.0 before felling to 5.9 since felling. The exact same change in pH has been observed in the control watercourses over the same time period. The pH of the watercourses is affected very significantly by rainfall and the River Strathy upstream of the felling at Strathy North has experienced some of the most acidic conditions in recent times.

6.23 The applicant considers that proposed forestry operations are in accordance with the established guidance and not at variance with it. Consequently, it is felt that no further expert assessment is required and that nitrate leaching and forestry management would not have a significant impact either on the receiving water quality or on fish and macro-invertebrates.

6.24 Therefore, leaching and forestry management would not have a significant impact either on the receiving water quality or on fish and macro-invertebrates. No consultees (with the exception of NDSFB) have raised an issue with this position.

6.25 Experience at Strathy North Wind Farm suggests the combination of carefully planned mitigation and frequent surveillance have been highly effective in preventing siltation and sediment runoff. The draft WQMP includes provisions for the proposed remedial measures to be adopted together with the pollution prevention measures set out in the draft Construction Environment Management Plan (CEMP). SEPA and MSS have both responded indicating satisfaction with the draft WQMP as it stands. It is anticipated that the combination of monitoring described within the draft WQMP and the pollution prevention measures defined within the CEMP will adequately protect water quality during and post-construction. The CEMP will follow the mitigation hierarchy (avoid, reduce, remedy or compensate). Should the monitoring described in the draft WQMP identify significant and potentially detrimental changes to water quality, or to ecological receptors including freshwater invertebrates and fish, the applicant is committed to identifying and implementing appropriate remedial actions as set out in the draft WQMP. The mitigation measures proposed, appropriate for the development, and to the satisfaction of the consultees.

6.26 A 70 metre buffer would be applied to the watercourses (with the exception of watercourse crossings) which is considered to be appropriate and also in excess of the SEPA requirement for a 50 metre buffer. Construction of Strathy North Wind Farm used a similar mitigation strategy which has been effectively deployed and the watercourses are regularly monitored. The monitoring work undertaken to date at Strathy North (on which the Strathy South WQMP was based) has found no evidence of impacts to fish or invertebrates. The applicant has undertaken to provide a more detailed CEMP for approval by SEPA, SNH and the planning authorities, in due course. The buffer zones proposed for watercourses in and around the development to be appropriate and to the satisfaction of the consultees.

Plantlife Scotland's position

6.27 Plantlife Scotland has a keen interest in peatland protection and management in the north of Scotland. Plantlife Scotland own and manage nearly 1,900 hectares of peatland as a nature reserve at Munsary, in Caithness, and have invested significant funds in restoring its functionality as part of the Flow Country peatland complex. The Munsary Peatlands Nature Reserve is part of the Caithness and Sutherland Peatlands SAC.

6.28 Plantlife Scotland object to the proposal for the following reasons:

- The proposed development is likely to have adverse impacts on the integrity of the Caithness and Sutherland Peatlands SAC and Ramsar site.
- It lies within a Zone of Opportunity in the Caithness and Sutherland Peatlands Important Plant Area.
- It would have a detrimental effect on the status of the Flow Country which is listed as a UK candidate site for World Heritage Site status.
- This proposal is in conflict with other Scottish Government policies regarding peatland protection and restoration.
- If approved a legacy of hard infrastructure would impact negatively on future peatland restoration potential.

- This proposal is not necessary to meet Scottish Government renewable energy targets as other, less biologically significant locations are available for development, with less damaging results for our natural heritage.

6.29 The Scottish Government must carry out an appropriate assessment of this proposal to ensure that it does not compromise the integrity and functionality of the surrounding SAC. The information supplied must be scrutinised and assessed to demonstrate without any doubt or uncertainty that the surrounding peatland SAC would not be compromised. Scottish Ministers would therefore be bound to reject the proposal as it stands until such clarity is obtained.

6.30 The Caithness and Sutherland Peatlands IPA corresponds to the entire peatland area of Caithness and Sutherland. The 'core area' of the IPA represents the largest and most intact peat mass in the UK, three times larger than any other peatland area in either Britain or Ireland.

6.31 Although the hydrology of the blanket bog has been disrupted in many areas, especially by tree planting, large areas of the blanket bog, even within afforestation areas, remains 'active' with sphagnum species continuing to lay down peat. Forested areas on blanket bog peat are included within the 'zone of opportunity' of the IPA. The Peatlands Partnership is supporting the intention that the Flow Country be submitted as a candidate for World Heritage Site status. One of the identified issues is damage to blanket bog from past and current developments. Wind turbines developments impose difficulties that would compromise site integrity for this proposed accolade designation.

6.32 This proposed development is in direct conflict with other Scottish Government policy objectives. There is recognition by the Scottish Government that peatlands are an important store for carbon. Restoration and maintenance of the health of peatlands is an essential way of addressing and alleviating some of the effects of climate change. The Scottish Government has developed ambitious targets to restore large areas of degraded peatlands and has allocated substantial amounts of funding peatland restoration projects.

6.33 It is noted that Paul Wheelhouse MSP (Environment and Climate Change) said on 26 September 2013 that "the importance of restoring peat-forming habitats which have been drained or damaged cannot be underestimated and the Scottish Government is committed to ensuring Scotland's peatlands are returned to good condition."

6.34 Restoration of peatland functionality from previous afforestation schemes is a tried and tested methodology, resulting in the recreation of peatlands that are active and viable. The legacy of heavy tracks, cabling and the deep concrete bases of wind turbines creates a different scenario, with the concrete affecting the nutrient status of the surrounding peatland.

6.35 This proposal, situated in the middle of a sensitive complex of peatland hydrology, would create serious difficulties for restoration. Given that there are other locations available in Scotland that are less sensitive to such proposed development, the Scottish Government can safely reject this application without jeopardising renewable energy generating targets.

Northern District Salmon Fishery Board Position

6.36 The Board has no reason to object to the proposed development but it does have a duty to try to ensure that the development does not impact on salmonoid populations. The applicant has addressed some of the Board's concerns by providing a draft Water Quality Management Plan (notably the use of 70 metre buffer zones around streams). However, the Board continues to argue that timber should be removed from the site rather than reliance on mulching to reduce the passage of nutrients to streams; and that there should be a co-ordinated response to developments within the Strathy catchment.

SEPA's position

6.37 SEPA's position on salmon and sea trout impacts is that, provided there is compliance with pollution prevention and control measures, and provided adequate pollution prevention and control measures and monitoring are put in place to protect watercourse quality, then there should be no impact on any species within those watercourses, including salmon and sea trout. Our main focus therefore has been on the sufficiency of proposed monitoring and adequacy of proposed mitigation and buffer zones.

6.38 Insofar as SEPA's interests are concerned, having assessed the information submitted in relation to the proposed development, SEPA is satisfied that:

- Potential impacts on watercourses and the species utilising watercourses can be addressed by compliance with pollution prevention and mitigation measures.
- The general principles of such prevention and mitigation as set out by the applicant are satisfactory and that the detail of such pollution prevention and mitigation measures can be addressed satisfactorily by means of condition.
- The Water Quality Monitoring Plan submitted was satisfactory.

Scottish Natural Heritage's position

6.39 SNH confirmed in its response of 5 January 2015 that any objection in relation to the impact on the Caithness and Sutherland SAC was withdrawn. Previous concerns about access track passing places, peat landslide and hazard risk assessment, soil heaps, cable laying and details of the deer management plan were alleviated. Consequently, SNH advised that an appropriate assessment was not required.

6.40 Therefore, previous concerns about potential peat landslide impacts on otter (a qualifying interest of the SAC), and on Atlantic salmon and freshwater pearl mussels, were also allayed.

6.41 SNH recommend that the imposition of mitigation measures (as stated in the environmental statements and management plans) would avoid any detrimental impact on protected species. Those being: otter, wildcat, water vole, pine martin, Atlantic salmon and freshwater pearl mussels.

Reporter's findings

6.42 Important Plant Areas have been identified by Plantlife Scotland (a non-governmental body) to promote the protection and restoration of identified areas. The designation of these areas is non-statutory. However, in the main they follow the

boundaries of existing designations including the Caithness and Sutherland SPA, SAC and Ramsar sites underpinned by various Sites of Special Scientific Interest. Therefore, although the IPAs are not specifically protected in planning policy or otherwise, the areas they cover are given high priority and protection. The duty to further conserve biodiversity is also relevant to this matter.

6.43 Plantlife Scotland is primarily concerned about peatland protection. My findings on peat impacts are found in [chapter 7 below](#) where the issues of World Heritage Site status; peat loss, management and restoration; and the need for appropriate assessment are concluded. Drawing on these conclusions, I find agreement with the applicant that the proposed development would, as restoration progresses, likely be of benefit to the application site's habitat and that of the surrounding designated areas. The impact on important plant life would be minimised by careful management of the tree felling, construction, post-construction and restoration stages.

6.44 Taking account of the environmental statement, addendum and further information report findings, and following the advice of SNH, SEPA and MSS, I find that there would be no significant impact to protected species. The applicant has carried out a significant level of investigation to determine the presence, or otherwise, of species on and around the application site. I am satisfied that the level of pre-construction, construction and post-construction monitoring, and the implementation of mitigation measures, would be satisfactory to safeguard any harm to otter, water vole, pine martin, wild cat, badger, Atlantic salmon, freshwater pearl mussels, and brown trout. I also find that the monitoring and mitigation measures would ensure no harm to eel if found present in the River Strathy catchment.

Summary of findings

6.45 In summary, the proposed development would likely be beneficial to areas of important plant life following restoration. The implementation of mitigation measures and continued monitoring and management of the site and surroundings would ensure no harm to protected species on land or in the River Strathy catchment.

CHAPTER 7: IMPACT ON PEAT

Evidence on peat impacts

7.1 Key evidence with respect to peat impacts includes:

- Inquiry statements from the applicant³⁸²; RSPB Scotland³⁸³; and the John Muir Trust³⁸⁴.
- Hearing statements from the applicant^{385 386 387 388 389 390}; RSPB Scotland³⁹¹; and the John Muir Trust³⁹².
- Discussions during a hearing session held on policy matters³⁹³.
- Closing submissions [click to go to page 1 of this report].
- Written responses to a procedure notice³⁹⁴ following the hearing from the applicant³⁹⁵; RSPB Scotland^{396 397}; and the John Muir Trust³⁹⁸ relating to the following:

- (1) An estimation of the total amount (in cubic metres) of peat to be extracted including that to be used for restoration and stored in borrow pits.
- (2) The characteristics/type of peat to be extracted (acrotelm/catotelm).
- (3) The storage arrangements for the peat including maintenance and duration of storage.
- (4) An estimation of “wastage” and the amount of peat that is proposed to be used in restoration.
- (5) The significance of the total amount of peat to be extracted in relation to the approximate amount of peat within the application site, and in relation to the Special Area of Conservation.
- (6) The mechanism to control and monitor the extraction, storage, maintenance, and final restoration of peat.

7.2 Although discussed at the hearing sessions written submissions were also invited on the hearing statement of Mr MacCulloch for the applicant on the engineering aspects of cut and floating roads. His statement was lodged late and consequently parties did not have sufficient time to prepare full responses ahead of the hearing session. It was agreed that the use of written submissions would alleviate any prejudice.

³⁸² Applicant’s inquiry statement. [Document not published online due to sensitive content].

³⁸³ RSPB Scotland’s inquiry statement. [Document not published online due to sensitive content].

³⁸⁴ [Inquiry statement from the John Muir Trust.](#)

³⁸⁵ [Hearing statement from Mr Andrew Walters and Dr Simon Zisman for the applicant.](#)

³⁸⁶ [Hearing statement from Ms Joyce Campbell \(a local supporter\) for the applicant.](#)

³⁸⁷ [Hearing statement from Mr Neil McKay \(forestry and ecology manager\) for the applicant.](#)

³⁸⁸ [Hearing statement from Dr Tom Dargie \(Boreas Ecology\) for the applicant.](#)

³⁸⁹ [Hearing statement from Mr MacCulloch \(Arvikaconsult Limited\) for the applicant.](#)

³⁹⁰ [Hearing statement from Mr Graeme Blackett \(BiGGAR Economic Limited\) for the applicant.](#)

³⁹¹ [Hearing statement from RSPB Scotland.](#)

³⁹² [Hearing statement from the John Muir Trust.](#)

³⁹³ [Agenda for hearing on peat matters held on Thursday 23 April 2015.](#)

³⁹⁴ [Procedure notice sent 7 May 2015.](#)

³⁹⁵ [Written submission from the applicant dated 14 May 2015](#); and [rebuttal 1](#) and [rebuttal 2](#) dated 28 May 2015.

³⁹⁶ [Written submission from RSPB Scotland dated 14 May 2015](#) and [rebuttal dated 28 May 2015](#).

³⁹⁷ [RSPB Scotland response to Mr MacCulloch’s hearing statement.](#)

³⁹⁸ [Written submission from the John Muir Trust dated 14 May 2015](#) and [rebuttal dated 28 May 2015](#).

Scope of evidence

7.3 At the pre-examination meeting there was debate about the procedure regarding peat impacts as it would be dependent on the level of agreement between parties and the technical information submitted. It was agreed that parties would submit inquiry statements on this topic but that a hearing session could be held if the content of these statements was not unduly complex or technical, and if there were substantial areas of agreement. Having received the inquiry statements I determined that it was feasible to hold a hearing session. A statement of agreed matters was also sought.

7.4 A draft statement of agreement was prepared by the applicant and RSPB Scotland³⁹⁹. However, the statement excluded the John Muir Trust. Therefore, it was agreed to abandon work on a statement of agreement. There continued to be the opportunity to participate in a hearing session.

Representations

7.5 Representations, see paragraph 1.18, expressed the following objections:

- The proposed development would harm peatlands and destroy deep peat.
- There would be a significant release of carbon dioxide and methane from peat removal.
- The proposal would risk peat slide and peat instability.
- The proposed development would have a negative impact on Flow Country World Heritage Site status.

7.6 In support of the application, representations expressed that restoration of the application site to blanket bog would create beneficial habitat and could aid any proposal for the Flow Country to be designated a World Heritage Site.

Applicant's position

7.7 The proposed development would enable the removal of commercial forestry, contributing significantly to forest removal objectives and re-establishing habitat connectivity across extensive areas of the Caithness and Sutherland Peatlands Special Protection Area (SPA) and Special Area of Conservation (SAC).

7.8 The residual impact of development would be highly localised, small scale and entirely absent from part of the site, and cannot be considered to be a significant constraint on future restoration. Instead, the scale of residual infrastructure would be contrasted against the excessive area cleared of forest and made available for peatland restoration on site, together with the wider range of habitat mitigation and enhancement measures off-site proposed as part of the application.

The existing peat conditions

7.9 The peat resources at Strathy South are the result of peat formation over many millennia by natural processes, but heavily modified by afforestation with conifers in recent

³⁹⁹ [Draft statement of agreement on peat matters.](#)

decades. The application site is positioned towards the west and north of the main area of very deep peat which forms much of the Flow Country⁴⁰⁰. There is considerable variation in peat thickness within the site but the majority has a cover of deep peat (more than 0.5 metres). Peat probing results indicate that the most frequent thickness is 0.5 to 1.5 metres, followed by deeper conditions of 1.5 to 3.0 metres. Very deep peat (more than 3.0 metres) is uncommon. Shallow peat and ground without a peat cover (less than 0.5 metres) are moderately common⁴⁰¹.

7.10 Peat is the partially decomposed remains of dead plants and animals which are the result of waterlogging conditions. Areas with a peat soil within a landscape are termed peatlands. In the Flow Country peatlands, the waterlogging is produced by a combination of high rainfall, cool temperatures, high humidity and suitable topography (low-angle slopes with gentle concavities and convexities). Undisturbed peatland habitats here are mainly bog, a nutrient poor and markedly acidic habitat due to purely rain-fed nutrition, surface irrigation and long-term waterlogging. Bog changes into fen (another type of peatland) downslope where it comes under the influence of irrigation by mineral-rich groundwater. The very extensive mantle of bog peat is termed blanket bog. Together, bog and fen represent mires - peatlands which are currently forming peat.

7.11 Blanket bog in section is made up of two layers (technically called a diplotelmic structure): acrotelm and catotelm. The surface layer (acrotelm) comprises “living plant cover passing downwards into recently dead plant material and thence to fresh peat. It forms the largely oxygenated surface layer with high hydraulic conductivity, within which the water level fluctuates and the main water movement occurs”⁴⁰². It is described as active, in the sense that it is peat-forming. The lower layer (catotelm) is “permanently saturated, mainly anoxic and usually of lower hydraulic conductivity and storage capacity than the acrotelm”⁴⁰³. Peat has formed at the application site as a result of acrotelm presence over millennia. The peat which has formed over that time has been stored in the catotelm.

7.12 The application site, prior to afforestation, was largely covered in blanket bog habitat, which formed part of a more extensive complex of watershed and spur mires which, outside the site, remains present and protected by Sites of Special Scientific Interest (SSSIs) and the Caithness and Sutherland Peatlands SAC.

7.13 Afforestation has destroyed or severely damaged blanket bog habitat under most ground with tree cover. In areas where blanket bog habitat is entirely lost, there is no current new formation of peat. Therefore, the forestry has destroyed the acrotelm. In areas where tree growth is poor (due to less effective forestry drainage) peat formation probably continues but perhaps at a markedly reduced rate.

7.14 The direct impact of forestry on peat has been the loss (or marked reduction) of active peat formation from the forest footprint (1,133 ha). Within this area, forestry has mainly destroyed the acrotelm and converted the peat body into a single-layered (haplotelmic) structure⁴⁰⁴. Most of the peat body under forestry is therefore the damaged remnants of the former catotelm. It is likely to have significantly reduced thickness,

⁴⁰⁰ [Carbon Stocks in Scottish Peatlands, Figure 2](#). [SSE_12.07]

⁴⁰¹ T39 Further Information Report, Technical appendix 4.1, section 2.3, table 2.1. [CD_5.2]

⁴⁰² [A Wetland Framework for Impact Assessment](#). [SSE_12.44]

⁴⁰³ [A Wetland Framework for Impact Assessment](#). [SSE_12.44]

⁴⁰⁴ [Peatbogs and Carbon 2010, see 4.3.3.1](#). [SSE_12.28]

increased bulk density and reduced hydraulic conductivity compared to its pre-forestry state.

7.15 The mainly forested nature of the site means that most of the peat to be extracted would therefore have been degraded by conifer plantation, destroying the former acrotelm and aerating much of the former catotelm. The bulk of peat which would be extracted would therefore be neither acrotelm nor catotelm but the modified remnants of former catotelm, with tree stumps, tree roots and relatively dry aerated (part-wasted) peat.

Peat acting as a carbon sink and the likely impacts of development

7.16 Peatland carbon sink absorbs more carbon than it releases. A peatland carbon source is one which is releasing more carbon to the atmosphere and aquatic environments than it is absorbing from the atmosphere by photosynthesis.

7.17 Forestry at the application site has created a very large extent of damaged peatland. Ploughing, deep drain drainage and tree growth have probably lowered the water table considerably. In the very early stages of tree growth, (2-4 years after ploughing) there likely were large losses of peatland carbon dioxide to atmosphere, followed by a phase (4 to 8 years) when the peatland resumed as a sink. Thereafter, the peat was a slight carbon source⁴⁰⁵.

7.18 The tree crop at the site represents a second carbon store on site and this is probably a carbon sink, assimilating more carbon than it loses to atmosphere or the aquatic environment. Therefore, the imposition of forestry upon active blanket bog switched the site peatland store from a sink to a source, whilst creating a further carbon sink within the tree crop.

7.19 The proposed development would further change the sink/source status of the peatland. Over time, the following complex changes and interactions might occur:

- Immediately following deforestation, the peatland carbon store would continue as a carbon source. Water table levels would be low and would take time to recover. The ground will also be exposed to higher summer temperatures. This would increase carbon dioxide emissions from peat wastage.
- Vegetation would establish on the deforested surfaces, at the same time that water levels would be rising. Surface temperatures would not be so severe due to vegetation impacts on surface microclimates. The peatland will be a carbon source, but emissions would have fallen markedly.
- Blanket bog habitat would start to form as large patches after approximately 10 years and over several decades the peatland would continue as a carbon source. However, emissions would decrease steadily as parts of the blanket bog habitat develop an acrotelm and start accumulating new peat.
- Eventually, there would be a short period of balance between carbon sequestration and carbon emissions. Thereafter the peatland would be a carbon sink for the first time since forestry was introduced to the site.

⁴⁰⁵ [Carbon Balance of Afforested Peatland in Scotland, Summary](#). [SSE_12.19]

7.20 Development would therefore increase the size of the carbon source effect in the first two to three decades, up to decommissioning. The cumulative impact would not be large, given the small area of the wind farm footprint and the very area of deforestation.

7.21 Decommissioning would be followed by restoration which would fill in or block wind farm drains. Restoration of infrastructure to priority habitats, including blanket bog would then reinforce the long-term move from carbon source towards carbon sink conditions.

7.22 In summary, the forestry converted the peatland carbon sink into a carbon source. Deforestation and restoration as priority habitats would, in the long term (several decades) convert the peatland back to a carbon sink. Development would increase carbon losses and therefore increase the size of the carbon source (due primarily to new drains and peat extraction). However, this would be of low magnitude compared to installing the wind farm on an active blanket bog. Restoration proposals would mean that wind farm effects on the carbon balance would cease soon after decommissioning. Development would not act as a long-term constraint on a return to carbon sink conditions.

7.23 The proposed development would have a very small negative effect on the carbon store. Site restoration as active blanket bog would restart carbon sequestration and ultimately restore the area as a carbon sink.

The extent of peat loss

7.24 Peat loss means the volume of peat which has to be excavated to achieve construction of the wind farm. In that sense it is not total loss because it would all be available for restoration and reinstatement activities. Careful restoration would ensure that the majority would not be lost, for example to atmosphere, by wastage.

7.25 The ES addendum shows the wind farm layout superimposed on peat thickness⁴⁰⁶. The applicant has carefully designed the borrow pit locations and road routes of the wind farm footprint to avoid the deepest peat. Floated roads are proposed for sectors over peat deeper than 1 metre. A 50 metre micro-siting allowance, applied to turbines with the deepest peat, will likely achieve locations within one shallower peat depth. However, turbine locations and hardstandings cover a wider range of peat depth and there are cases of turbines located on deeper peat. Turbine location is constrained by turbine spacing distances and hence it is harder to place these on shallow peat.

7.26 Estimates of extracted peat volumes are presented in the peat management plan (PMP)⁴⁰⁷. These have been calculated in accordance with guidance prepared by SEPA and Scottish Renewables⁴⁰⁸. For most of the infrastructure, it is intended to reinstate the peat extracted at the location it was extracted from following completion of construction. The exceptions to this include turbine bases and hardstanding, tracks and borrow pits, as shown in the table below.

⁴⁰⁶ ES addendum – Technical Appendix Figure A14.4. [CD_5.2]

⁴⁰⁷ [Technical Appendix 4.1: Peat Management Plan for the T39 Layout](#). [CD_5.2 or SSE_12.117]

⁴⁰⁸ Guidance on Developments on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and Minimisation of Waste, SEPA & Scottish Renewables, 2012.

Table: Estimated peat excavation volumes

Infrastructure	Total peat excavated (m ³)		Total peat reinstated or restored (m ³)
Borrow pits	59,741		201,319
Concrete batching plant	8,000		8,000
Construction compound	3,000		3,000
Cut track	117,870		0
Float track	878		26,574
Laydown area	5,000		5,000
Met masts	113		113
Switching station compound	5,000		0
Temporary access track to met masts and borrow pits plus shoulder areas on permanent tracks	4,350		4,350
Turbine bases	89,023	118,612	74,208
Hardstanding	29,589		
Cable trenches*	0		0
Total	322,564		322,564

* Cable emplacement likely to use ploughing or incorporation into the floating road design without the need for peat excavation, where possible.

7.27 A total of 322,564 cubic metres of peat would be excavated. However, a large proportion would be reinstated at the site of excavation following completion of construction. Therefore, a total of 242,359 cubic metres would remain for restoration, the majority (201,319 cubic metres) going into borrow pits.

Proposed restoration

7.28 The Outline Habitat Management Plan (OHMP)⁴⁰⁹ is an ambitious proposal which has developed from an earlier draft⁴¹⁰. The Environmental Research Institute (North Highland College, Thurso) has been engaged to undertake review and research in support of the final detailed Habitat Management Plan (HMP) which would be produced, if the proposed development is granted. Strathy North Wind Farm already has a HMP which would be integrated into the Strathy South as one complementary plan.

7.29 The OHMP identifies 3 aims, 5 objectives and 10 prescriptions. The central objective of the plan is to restore all deforested ground to priority habitat, dominated by blanket bog as a mix of active and non-active types. There is no conflict between blanket bog restoration and other habitat management because SNH has advised that blanket bog is the priority.

7.30 The OHMP structure is flexible enough to allow adaptation for improved methods of ground restoration and for trialled research on novel methods of road corridor restoration, using an unwanted existing road corridor in the north-west of the application site.

7.31 Wind farm infrastructure is only likely to be on site for 25 years and would not compromise the long-term potential for the restoration of peatland habitats. There would be

⁴⁰⁹ [Outline Habitat Management Plan – version 1](#). [SSE_11.60]

⁴¹⁰ Technical Appendix A11.2. [CD_4.5]

no permanent constraint on the re-establishment of conservation value to the surrounding Caithness and Sutherland Peatlands SAC and SPA. Biodiversity and soil carbon benefits would accrue in the long-term despite the temporary presence of a wind farm.

7.32 A large proportion of the wind farm footprint is capable of restoration to blanket bog habitat. Suitable road sectors, with very gentle slopes, could be prepared for blanket bog establishment by creating conditions for paludification (the spread of mire habitat laterally over a mineral soil surface).

7.33 All peat extracted would be stored and managed in accordance with the Construction Environment Management Plan (CEMP)⁴¹¹ and best practice guidance. Wherever practicable, the following general principles of storage arrangements would be adhered to, as stated in the PMP and the CEMP:

- To minimise temporary storage where possible through immediate reuse of the excavated peat (where possible).
- Where temporary storage is required, storage locations shall be as local as possible to the site of excavation or reuse.
- Peat will not be stored for more than 6 months and turf (including acrotelmic turf) will be placed in a permanent position after much shorter storage, to ensure rapid regeneration.
- Turves will be stored separately with vegetation facing up and watered as appropriate.
- Peat will not be temporarily stockpiled in depths greater than 1 metre.
- Stockpiles will be located a minimum distance of 50 metres away from watercourses and isolated from surface water drains. Stockpiles will include bunding if appropriate and located in low traffic areas.
- Storage locations will be determined by the construction contractor in consultation with the Ecological Clerk of Works and Geotechnical Clerk of Works prior to the commencement of excavations and provided on a plan to accompany the Peat Management Plan and relevant Method Statements.

7.34 “Wastage”, or more exactly “oxidative wastage” is defined as the conversion and loss of stored peat carbon to the atmosphere as carbon dioxide. It is a natural part of the carbon cycle but is presumed to greatly increase when peat is drained, lowering the water table and allowing oxygen access into the catotelm. Based on one example, the applicant suggests that if all excavated peat is assumed to be stockpiled for 6 months and then reinstated or restored with a high water table (arresting wastage), the amount of peat loss might be 10,645 cubic metres. However, this is a crude calculation which takes no account of a confined surface area within stockpiling or re-wetting conditions which can be applied. Overall, wastage losses are considered to be minimal. In addition, much of the peat volume would be forest-modified former catotelm which has already suffered oxidative wastage beneath forestry, due to water table lowering. Further losses in the initial stages of restoration are likely to be small compared to those under 20-30 years of forestry.

7.35 The applicant considers that the RSPB assertion of extreme difficulty in moving and reusing peat, based on the Professor Joosten’s verbal statement during the hearing session, runs counter to much industry experience. Acrotelmic turf is readily moved and stored without a severe loss of structural integrity. As has been demonstrated on numerous

⁴¹¹ 2013 ES Addendum - Technical Appendix A4: Construction Environment Management Plan. [CD_4.4]

wind farm sites, depending on the fibrosity, degree of humification, moisture content and appropriate handling, catotelmic peat can also be reused successfully in reinstatement. Former catotelmic peat from the application site (the likely main type of excavated peat) would usually be relatively thin and will be mainly dry and therefore readily handled, due to forestry impact.

7.36 The John Muir Trust (JMT) infer that extreme weather (hot summer temperatures, hard frost) would damage temporarily stored peat held for a period of around a year. These meteorological conditions are considered to uncommon at the development site and of short duration in cool and damp Atlantic climate conditions which are responsible for the formation and maintenance of Atlantic blanket bog in the Flow Country.

7.37 The JMT argue that the ground would yield turf. In fact turf (most commonly, acrotelmic turf derived from blanket bog) would be restricted in amount because most excavated ground will have a deforested surface of pine and spruce needles. Excavated material here is also likely to generate a considerable volume of non-peat (tree stumps, spaced at 2 metre intervals for all forested ground, plus extensive tree root systems). The space to temporarily store stumps is immediately available on adjacent deforested ground covered in a thick layer of tree needles which will not be seriously damaged. Tree stumps are reused within restoration activities as they provide valuable structural properties for reinstated material.

The significance of peat extraction

7.38 The total peat volume on the application site is estimated to be 19,680,000 cubic metres. Therefore, the total peat to be extracted would amount to 1.6% of the estimated total volume of peat on site (and would represent around 0.011% of the Caithness and Sutherland Peatlands Special Area of Conservation peat volume⁴¹²). This excavated volume is not considered significant in terms of overall volume of peat on site. In any case, all of the extracted peat would be used for reinstatement of construction disturbed areas, in landscaping and in habitat restoration. The volume of peat to be extracted would be insignificant.

Woodland management

7.39 The forestry at the application site is typical of the forest expansion encouraged through UK Government tax incentives and grant aid during the 1970's and 1980's. Forestry at the application site was planted between 1983 and 1994; the peak of the plantation being established during 1985 and 1986.

7.40 Yield class is a function of tree volume increment per year and is represented in cubic metres per year. The application site exhibits the range of yield class from 4 to 14, while the volume of the area fits with yield class 6 and 8. Performance in terms of general yield class can only be described as modest due to impoverished nutrient soil status, anaerobic soil conditions, and its northerly location. For investment forestry yield class 12 is at the lower end while yield class 16 is seen as average.

7.41 A principal objective of the OHMP is for the early intervention in the degradation of the peatland. Key to beginning this process would be tree clearance. Following the

⁴¹² The total peat excavated would amount to some 26 hectares. The Caithness and Sutherland Peatlands Special Area of Conservation has a documented area of 143,538.7 hectares.

direction from the Forestry Commission Scotland (see paragraph 8.15), it is clear that no re-planting of forestry would be sought on the application site once felled.

7.42 Tree clearance would use specialised harvesting techniques and equipment previously exercised on deep peats in Scotland. This includes the applicant's experiences at Strathy North where timber harvesting contracts were awarded on the basis of environmental controls and how the land would be left after harvesting, rather than on timber value. The objective would be the future land management rather than the felling operation.

7.43 Following Forestry Commission guidance and good forestry management practice, the applicant would avoid damage to remaining peat forming vegetation through careful choice of machine routes and the use of low pressure equipment; cut tree stumps to lower than normal practice and removal of all forest material, where practical, through the timber harvesting operation to assist in restoring peatland. Contrary to normal timber harvesting activity where forest drains are cleared to allow continued flow of surface water, these would not be cleared but left blocked to begin the re-wetting process for peatland restoration.

Hydrological and drainage impacts

7.44 In summary:

- Wind farm construction and operation impacts on stream hydrology would be slight due to regulated compliance and best practice.
- Habitat management impacts on hydrology and hydrochemistry would result in slight increases in fluvial nutrient content (for a short period of time) but these would not affect salmon and salmonid populations in receiving waters.
- Wind farm effects on peat hydrology would be slight due to the highly modified and much-dried state of this peatland as a result of forestry. Distance of drainage effects is likely to be 10 metres or less.
- In areas of peat depth of 0.5 metres or greater, the standard approach would be to "float" rather than "cut" the road, so as to avoid severing hydroconnectivity. In sensitive areas, the floating track design could be modified to incorporate a timber raft with additional culverts beneath the road.
- Well-designed floating roads would not act as a stone wall constructed across the peat mass.
- RSPB Scotland suggest that floating roads may require constant addition of stone to maintain longitudinal profile. This would only be the case in a poorly designed road with little attention paid to the primary consolidation.
- The access roads would be designed using the number of vehicle standard axles, not weight. Failure to understand this leads on to an exaggeration by RSPB Scotland of the degree of peat compression.
- Although the applicant is committed to considering the removal of new roads at the point of decommissioning, this would depend upon best practice at that time.
- The Peat Landslide Hazard Risk Assessment (PLHRA) for South Strathy Wind Farm has been assessed as negligible to low and the SAC is not at significant risk. The PLHLRA is the first stage in the commencement of a Geotechnical Risk Register (GRR) for the site. As further ground investigation (GI) work is carried out the GRR would be updated and communicated to all involved in the

construction of the wind farm. If the GI results increase the risk of a peat slide then preventative action would be taken.

7.45 The applicant intends to “float” new roads in areas of peat depth of 0.5 metres or greater, making use of a geotextile membrane and brash matting techniques. Such construction techniques help to spread the load of construction vehicles, and that a wider road width can result in a thinner profile. These roads would be designed to accommodate the number of standard axles, in compliance with current good practice. Despite suggestions to the contrary from RSPB Scotland, the use of floating tracks is not innovation on the part of the applicant at the hearing. Use of such tracks has always been envisaged⁴¹³. However, as was explained in Mr MacCulloch’s hearing statement, in order to seek to address concerns expressed by RSPB Scotland, the applicant decided to lead Mr MacCulloch as a witness in order to provide greater technical insight as to the use of the floating road technique.

7.46 In its further written submission of 14 May 2015, RSPB Scotland acknowledged Mr MacCulloch’s extensive engineering expertise, welcomed production of SSE 12.116 (Forestry Commission 2014 Guidance) and accepted the principle of using tree stumps and brash to “float” track. Recent observations at Braehour support the conclusion that peat compression can be minimised and controlled by using log/brash rafts with geogrid and carefully monitoring the rate of construction. Indeed, at Braehour, little or no compression has been noted.

7.47 Some areas of dispute remain between the parties, primarily in relation to the issue of hydroconnectivity. The applicant is very aware of the need to design access tracks so as to take account of the sensitivity of the site, and it will rely upon the expert advice that it has received from Dr Dargie and Mr MacCulloch, as summarised in the bullet points noted above. In light of the evidence, Scottish Ministers can be confident that proper track design will ensure that there will be no “stone wall” embedded within the peat mass, as initially feared by RSPB Scotland.

7.48 Insofar as RSPB Scotland retains concerns over the impact of the development, it is important to bear in mind the inherent contradiction in its position. On the one hand RSPB Scotland continue to hold the aspiration that what is presently heavily modified forestry can be restored to blanket bog as a consequence of third party investment, even if the wind farm proposal does not proceed. On the other hand, RSPB Scotland fails to expressly acknowledge that even if its alternative hypothesis could be delivered by third party investment without the wind farm project proceeding, removal of the commercial forestry would in itself require forest roads to be upgraded and created. Further forest roads would be required to enable timber extraction and there would be little or no difference in road depth between a proposed forest road and that which is proposed by the applicant in order to facilitate construction of the wind farm.

7.49 As was pointed out in the oral evidence of Dr Dargie, and again referred to in written submission, the RSPB’s aim of replicating “the diffuse flow across the whole surface that existed before the forestry” simply cannot be achieved. Put simply, the clock cannot be rewound entirely. Forestry ploughing has removed diffuse flow by destroying the former acrotelm, replacing that flow by drainage within 0.45 metres deep parallel plough furrows, spaced 4 metres apart, throughout tree-planted ground. Existing hydrological connectivity

⁴¹³ See for example section 4.2.3 of the Environmental Statement and section [A4.2.3 of the Addendum](#). [CD 4.2]

would however be maintained by allowing it to continue through the road structure, linking existing plough furrows on either side of the road. Furthermore, where roads pass over remnant blanket bog in open ground, the use of floating road design should ensure that diffuse flow is maintained.

7.50 Accordingly, the applicant has a strong appreciation of the design issues that would require to be considered during the construction phase and, having regard to the modified nature of the site and the floating road technique that would be deployed, concerns raised by RSPB Scotland about severing of hydroconnectivity are exaggerated and misplaced, especially for ground south of the Yellow Bog.

Access tracks

7.51 The existing forest track network is of a cut track construction where peat was removed down to a hard surface with the excavated peat and unwanted mineral material spread predominately on the down side of the slope. The exposed hard surface was shaped and strengthened by the use of material excavated from the side drains or small borrow pits located adjacent to the track. The current track specification does not comply with the Forestry Commission Outline Specification for Forest Roads and is suitable only for 4 – wheeled drive vehicles⁴¹⁴.

7.52 The current track drainage requires attention as there a number of areas where water is either ponding on the track or regularly overloading the existing culverts. There is also evidence of water flow in the track side drains which fail to comply with guidance⁴¹⁵.

7.53 Typical access road construction for floating and cut roads is shown in the ES addendum⁴¹⁶. Following normal practice, the detailed ground investigation necessary for the design of the access roads is yet to be finalised. However, the bulk of the new road construction would be located within what is presently conifer forest and the road design would be modified to accommodate this. The existing road network would require widening within the existing 25 metre corridor, strengthening and improving drainage to accommodate the traffic required to construct and access the wind farm. Peat stability would also inform the final track design⁴¹⁷.

7.54 The floating track design is usually used where peat depths are in excess of 1 metre. It is proposed that, to maintain and improve the mesotope hydrological connectivity, where slope stability permits the floating road technique would be used regardless of peat depth. In particular, it is intended that the area to the south of Yellow Bog will be an area where floating road techniques will be deployed.

7.55 At present there is little published research on the benefits of constructing a road over deforested peat and none on the hydrological connectivity of deforested peat beneath a floating road. A significant benefit of this project is, therefore, the opportunity to fund research into this area. It is likely that the Environmental Research Institute at Thurso would be asked to research this particular subject, as an element within infrastructure impact studies outlined in the ERI Strathy South Scope of Works⁴¹⁸.

⁴¹⁴ [As referred to in 'Constructed Tracks in the Scottish Uplands'](#). [RSPB L3]

⁴¹⁵ [Forestry Commission 2011 'Forest and Water Guidelines'](#). [RSPB J4]

⁴¹⁶ [ES Addendum, Figure A4.6](#). [CD_4.3]

⁴¹⁷ [ES Addendum Technical Appendix A14.1 – Peat Slide and Hazard Risk Assessment](#). [CD_4.4]

⁴¹⁸ [Strathy Peatland Restoration Monitoring Proposals](#). [SSE_12.112]

7.56 The removal of a floating road and restoring the site are expected to be more successful than restoring a cut road as the original peat layer remains. The layers of geogrid lock the aggregate into a cohesive structure which limits the migration of the aggregate and give clear definition of the road structure to be removed.

Grants and funding for peatland restoration

7.57 RSPB Scotland suggest that peatland restoration could be carried out in the absence on the wind farm proposal by using other financial models and/or available funding, including a the installation of a small-scale wind farm to generate income. The applicant estimates that it would cost £7,578,532 to fell the trees at the application site. The peatland restoration costs are estimated at £4,222,010. Overall, this gives a total to acquire, access, harvest and carry out peatland restoration of at least £11,800,542. Thus, the figure of £5.5 million suggested by the RSPB Scotland is a vast underestimate⁴¹⁹.

7.58 As noted by RSPB Scotland there are a range of sources available for peatland restoration, including from the Scottish Government and EU Life Programme. However, none of the potential sources of grant funding that are available are site-specific. So, even if the application site was eligible for funding, allocating funds to this site would mean that funds would not be available for restoration elsewhere in the region or in Scotland. Consenting the proposed wind farm, and carrying out the associated tree removal and peatland restoration, would therefore add to the total amount of peatland restored since the public sector grants could be used for other sites.

7.59 It is also noteworthy that for public sector grants in general, and EU grants in particular, the principal of additionality applies. That means that the applicant is asked to demonstrate that the project would not otherwise go ahead without the funding being applied for, which is not true in this case where the wind farm proposal could provide restoration.

7.60 The methodology used in the RicardoAEA report for RSPB Scotland is generally reasonable to calculate what returns a small-scale wind farm would generate, and whether such returns would be sufficient to fund tree removal and peatland restoration (suggesting £12.1 million could be available from a 4.7 megawatt community wind turbine scheme). However, some of the assumptions are very optimistic. Slight variations in the capacity factor, cost of capital, or operational costs would have a profound effect on the income generated to the extent that almost £10 million less could be available. Furthermore, the funding quoted in the RicardoAEA report is over the 25 year lifetime of the wind farm. The structure of financing is likely to mean that funds would not be available until the later years of the project life and so it would be many years into the future until funds were available for tree removal and peatland restoration.

Adjoining land management

7.61 Armadale Farm is a 2,275 hectare hill farm located directly north of the application site. Following an SNH peatland survey in 1993 the majority of the farmland was classified under four different designated Sites of Special Scientific Interest – Lochan Buidhe Mires SSSI; Strathy Bogs SSSI; Armadale Gorge SSSI; and Strathy Coast SSSI⁴²⁰. Peatland

⁴¹⁹ [RicardoAEA report for RSPB Scotland](#). [RSPB K35]

⁴²⁰ [Armadale Farm Peatland Survey 1993, Appendix 1](#). [SSE_12.98]

management agreements were settled between the farm owner (Ms Joyce Campbell) and SNH. These restricted or changed farming practices over identified areas of the SSSI's to meet the peatland habitat objectives⁴²¹. Funding was provided to offset the costs of implementation on two of the SSSI's between 1994 and 2011 (although the farm owner continued to implement the changes for all the SSSI designated areas).

7.62 In 2011 the funding to support the peatland management agreements ended. Other forms of funding (for example through the Scottish Government's Social Rural Development Programme) would allow a higher density of ewes per hectare of ground than previously agreed to the detriment of peatland management. However, this could be the only funding source left to the farm owner.

7.63 The applicant has approached the farm owner with a peatland management agreement on approximately 1,300 hectares of Armadale Farm⁴²². This agreement has all the same requirements as that agreed with SNH but includes two new commitments to implement hill drain blocking (up to 10 kilometres) around the catchment of Loch Meale; and the use of floating rafts at five sites identified as potentially suitable lochs and lochans for birds (divers). Funding would include an initial five year commitment followed by a rolling five year contract for the 25 year lifespan of the proposed wind farm. This would give the farm owner the confidence to plan ahead given this long term funding mechanism is sustainable and free from the threat of funding cuts. It would also ensure continued informed peatland management of the hill farm.

Flow Country World Heritage Site status

7.64 The Peatland Partnership (which includes SNH, the Forestry Commission Scotland, the Highland Council, RSPB Scotland, Plantlife International and the Environmental Research Institute) aspires for the Flow Country to be inscribed as a natural World Heritage Site (WHS). The consultation paper on Scotland's National Peatland Plan includes an objective for the Flow Country to have moved from the UK Tentative WHS list towards being a fully inscribed WHS by 2020⁴²³.

7.65 The Flow Country was promoted to the Tentative WHS list in 1999. However, no work progressed on its nomination until a call by the UK Government to review the list in March 2010 when 38 applications were submitted, including one for the Flow Country. In March 2011 an independent expert panel issued a report on the applications recommending that 11, including the Flow Country, be considered by Ministers of the Department of Culture, Media and Sport for nomination. An expert panel was convened in November 2013 to assess the technical evaluations submitted to support the applications. At this point only 6 of the 11 applications, including the Flow Country, were promoted⁴²⁴. In December 2013 the expert panel issued its findings which, after a rigorous assessment, decided that the Flow Country was not suitable for nomination at this stage. There was a gap between the aspirations for a nominated site and the real potential for Outstanding Universal Value (OUV).

7.66 The applicant notes that as a potential natural WHS any nomination for the Flow Country would need to be assessed by the International Union for the Conservation of

⁴²¹ [SNH Agreement 2006-2011](#). [SSE_12.99]

⁴²² [Peatland Management Agreement](#). [SSE_12.105]

⁴²³ [Scotland's National Peat Plan – Consultation Draft](#). [SSE_12.79]

⁴²⁴ [Letter from the Chair of the UK Tentative List Expert Group 2013](#). [SSE_12.111]

Nature, which would in turn would recommend a site to the World Heritage Committee for inscription. Therefore, even if nominated by the UK Government there is no guarantee of success. Due to stringent assessment criteria there is a need to be thorough to ensure applications for nomination are successful.

7.67 The expert panel recommended that a possible future nomination for the Flow Country should include a feasibility study whereby the initial evaluation would need to include:

- A draft statement of OUV, including authenticity and/or integrity.
- An outline comparative study sufficient to show the international context of the proposal.
- A clear assessment of actual and proposed legal protection and management arrangements, demonstration of local authority commitment to protection and management support of all major stakeholders.
- An indication of the resources likely to be available for preparing a nomination and for future management of the site.

7.68 To date, SNH has begun work to identify a draft boundary; appoint a group to carry out a comparative peatlands study to determine the relative importance of the Flow Country in a global context; and agreed that site integrity can be addressed through a Site Management Plan should the proposal proceed to the next stage. The boundary and comparative study are due to be completed in the Summer of 2015 in order that they can be presented to the Partnership Forum meeting in early Autumn and prior to the submission of a new technical evaluation for assessment by the expert panel.

7.69 Two of ten criteria used as the basis for assessing OUV were identified in previous applications as being of relevance:

- Criteria ix – [the Flow Country as an] “outstanding example representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities for plants and animals.”
- Criteria x – [as containing] “the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.”

7.70 The expert panel’s report observed that the Flow Country represented the “most globally-important ecosystem in mainland Britain, encompassing an exceptionally wide range of vegetation and surface pattern types”. However, the statement is qualified in that it would still be necessary for an applicant to demonstrate through a global comparative study that the Flow Country is of global significance and not just nationally important. Work would also be required to demonstrate that the bird populations in the area are of outstanding universal value when compared to other sites in the Palaeartic region.

7.71 The applicant argues that the commitment needed to produce a technical evaluation that addresses the two relevant criteria are extremely onerous. Furthermore, that global comparative studies are yet to be completed.

7.72 The expert panel's report had no issues regarding authenticity of the Flow Country. It recognised that damage had occurred to blanket bog and that its wholeness may have been compromised to some extent. The main causes of damage being from commercial forestry, sheep farming, sporting management for red deer, and wind farms. However, the applicant argues that notwithstanding these damaged areas, the overall integrity of the site remains.

7.73 In relation to protection, Natura sites are at the core of the Flow Country and any impact from wind farms is likely to be visual rather than affecting the structure, function and integrity of the area. It is likely that the boundary would follow that of the Natura designations and that suitable protection of these areas would come from statutory protection of these designations and the use of development management planning functions.

7.74 The application site falls outwith the Caithness and Sutherland Peatlands SAC, SPA and Ramsar designations (and the 39 separate Sites of Scientific Interest that underpin these). The site has been damaged by commercial forestry and is not part of the Flow Country that stands out as exceptional. Therefore, there can be no doubt that the application site would not fall within the boundary of any future Flow Country WHS boundary.

7.75 It is evident that the requirements of OUV mean that the application site is completely outside the area that may come to be judged as having outstanding universal value and integrity, such that it could be considered for inclusion with the boundary of a candidate WHS.

7.76 Strathy South is a highly damaged and completely modified environment, both in terms of its ecology and hydrology. It has been transformed from a peatland habitat to an entirely artificial and unnatural land use, brought into being by physically intrusive mechanical drainage, profound modification to its micro-topography and by the establishment of high density non-native conifer plantation. Furthermore, the plantation has continued over the years to further degrade the ecological features of the site, and is also causing ecological and hydrological damage to peatland habitats in the immediate surroundings. Given such drastic, fundamental and long lasting ecological changes, it is clear that Strathy South itself completely fails to meet either the criteria ix and x to qualify for OUV and consideration for inclusion in any Flow Country WHS boundary. Therefore, there would be no physical overlap between any future WHS and the proposed development.

7.77 In addition, it is noted that forestry is relatively widespread in the peripheral part of the Flow Country where the application site is located. This has resulted in extensive damage to neighbouring parts of the Flow Country to the south (Dry Burn Forest); to the north (Strathy Wood, Strathy North and Achrugan Forests); and to the east (Dyke Forest). Consequently, the application site's local context is not typified by expansive tracts of undisturbed habitat of the type that would potentially meet the necessary criteria to be included in any future WHS boundary.

7.78 It is further noted that bird assemblage typically occur in open peatland environments and few frequent forestry blocks at the application site or surrounding area. The extensive forest blocks in this part of the Flow Country has diminished habitat connectivity for birds, compounding the widespread direct impacts these inhospitable plantations have had on the

abundance and distribution of characteristic bird species in the northern part of the Flow Country. The area clearly would not meet with criteria x in relation to OUV.

7.79 The proposed development would be outside any area that may be considered to potentially conform to the OUV criteria. The proposal would have no direct ecological or ornithological impact on any future WHS itself. However, forestry felling and subsequent habitat management on and off-site does have the potential to improve the land that would be adjacent to some degree to areas that may conform to outstanding universal value criteria. Specifically, the proposal would enable the removal of 1,133 hectares of forest to allow for restoration (significant in that forest clearance for peat restoration has only been at 173 hectares per year over the last 15 years, amounting to 2,600 hectares).

Impact on designations

7.80 The 2013 ES addendum completed a review of potential impacts, considering mitigation, means of implementation and the residual impacts. In light of the detailed assessment of habitats within the Caithness and Sutherland Peatlands SAC adjacent to the proposed tracks, this was informed by a high level of accuracy of baseline data. These also provided robust and comprehensive information for the competent authority to carry out a Habitats Regulations Appraisal.

7.81 The SAC has six qualifying habitats, one qualifying plant species and one qualifying mammal species (otter). The impacts of the modified 2013 scheme (47 turbines) were assessed in detail against these qualifying interests⁴²⁵. Considered against the SAC's conservation objectives, the conclusion was reached that there would be no adverse impact on the SAC's integrity, during construction, operation or decommissioning.

7.82 As part of the revised assessment for the proposed 39 wind turbine application further consideration was given to habitat impacts, and concluded no overall significant change to the impact on ecological receptors, including the SAC⁴²⁶. It remains that the extent of the SAC's qualifying habitats would be maintained in the long term, and that the distribution of habitats would be maintained in the long term also. The structure and function of habitats within the SAC would be maintained and through active restoration and enhancement, would be supported through the application's accompanying HMP. The processes supporting qualifying habitats would also be maintained through forest removal and restoration.

7.83 Therefore, the proposed development would have no adverse impact on the integrity of the SAC, either alone or in combination with other plans or projects.

7.84 The proposed development would have no unacceptable impact on any designations relevant to the peat resource including the adjacent SSSIs or the Caithness and Sutherland Peatlands SAC. SNH now has no objection in relation to any impact on the Caithness and Sutherland Special Area for Conservation⁴²⁷. The proposed development would not significantly impede any potential for the Flow Country to be listed as a World Heritage Site. In fact, the deforestation of the application site would make a contribution towards achieving favourable designation conditions.

⁴²⁵ [ES Addendum, Table A10.15](#). [CD_4.4]

⁴²⁶ Further Information Report and Technical Appendices. [CD_5.1 & 5.2]

⁴²⁷ [SNH response dated 8 January 2015](#). [SSE_11.143]

RSPB Scotland's position

7.85 The UK is of outstanding international importance for peatland habitats including their breeding bird populations. Various international agreements and the Habitats and Birds Directives require the UK to secure the conservation of important breeding bird populations and peatland biotopes. Regulations 3 and 3A of the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) ("the Habitats Regulations") confer upon the Scottish Ministers a duty to restore this area to a state resembling that occurring before it was ploughed and afforested.

7.86 Blanket bog is an Annex I habitat, and a priority UK Biodiversity Action Plan ("UK BAP") habitat. Currently assessed as being in unfavourable conservation status in both the UK and in Scotland, blanket bog has been assigned a high priority for action, including restoration, under Scottish biodiversity policy.

7.87 It is widely accepted that inappropriately designed and/or sited wind farms can cause serious and irreparable harm to biodiversity and can reduce the climate benefits of renewable energy through disruption to peatlands. Indeed, inappropriate developments can cause significant harm to peatland habitats and birds. These impacts are avoidable and RSPB Scotland has engaged constructively with the wind industry to ensure that developments are sited appropriately having been subject to rigorous assessment.

7.88 RSPB Scotland manages the adjacent Forsinard Flows nature reserve and is also a lead partner in the Peatlands Partnership which aims to "enhance and promote the special values of Caithness and Sutherland through the promotion of sustainable land management, encouragement of sustainable development and through co-ordinated action." A major partner in successive EU LIFE-funded projects to restore and improve the quality of blanket bog in the Caithness and Sutherland Peatlands particularly at Forsinard Flows, RSPB Scotland has unrivalled experience of the particular challenges faced when attempting the effective restoration of peatland following afforestation.

7.89 The dates of planting and yield classes of trees on the application site are similar to those for the areas already felled or scheduled to be felled at Forsinard Flows. Grips and drains on RSPB Scotland's reserve have been blocked. The blanket bog is expected to respond similarly to other parts of the reserve where this management has already taken place. There is no evidence to suggest that the application site would respond differently to the same measures were they to be adopted.

Existing conditions and location of peat resources

7.90 The applicant and RSPB Scotland agree that the application site was a functioning peatland prior to the afforestation. The applicant's witness (Dr Dargie) suggested that the site has "clearly a continuum [of peat depth] of 0.5 metres to 5 metres". Thus, the site could be described as "shallower, moderate and very deep peat".

7.91 There are shortcomings in the peat depth assessment. In particular, the map is informed by "interpolations" where probing is undertaken at the locations where development is proposed. There can only be certainty about the depth of the peat at those locations. Those complications notwithstanding RSPB Scotland broadly agrees with the applicant's peat depth mapping. It is highlighted that parts of application site include areas

of very deep peat particularly at the south of the site where the peat depth exceeds 3.5 metres - yet a number of turbines and a new road would be located there.

7.92 The applicant's assessment that the peat depth is "not unique" ignores the unique location of the application site. The proposal needs to be assessed within the wider peat matrix. In particular the application site is right in the middle of the most important areas for peat.

7.93 Parties are agreed that forestry is damaging to peatland habitat. The applicant noted that effects of the forestry extend 40 metres beyond the trees. RSPB Scotland's witness (Professor Hans Joosten) explained that the "complicated" effects; the consolidation caused by the removal of water and the subsequent oxidation lead to subsidence.

Extent of peat loss

7.94 RSPB Scotland and the applicant agree that only 5 of the 39 turbines are not to be sited upon deep peat (turbines 1, 6, 8, 24 and 26).

7.95 Probing of specific locations within the micro-siting tolerance has not taken place. The applicant's assertion that micro-siting could lead to some turbines being sited on shallower peat may be true; it may also be true that turbines would be placed on areas of deeper peat than that assessed by the applicant.

7.96 Anything between 240,000 and 400,000 cubic metres of peat could be excavated. Such was the applicant's lack of clarity on this matter that the reporter decided to issue a procedure notice to clarify the amount of peat to be excavated. The applicant, in its response, confirmed that some 322,564 cubic metres of peat would be excavated.

Proposed restoration and potential constraint of future restoration

7.97 Top quality blanket bog surrounds the application site and noted that, in spite of the afforestation, the site still retains some active blanket bog. Parties agree that the site could be successfully restored. Thus, much of the damage caused by the forestry is potentially reversible. In contrast, the ground impacts of the proposal are permanent; the roads and turbine bases would not be removed as part of any decommissioning plan. In addition, the proposal would prevent, at least in part, the reconnection of the application site with the Caithness and Sutherland Peatlands SAC. There are therefore two ways in which the proposal would constrain future restoration:

- loss of opportunity to reconnect parts of the SAC
- permanent infrastructure.

Reconnection of parts of the Caithness and Sutherland Peatlands SAC

7.98 The application site shares a common history with the surrounding peatlands. Restoration offers the potential to reconnect Skelpick Peatlands SSSI with Strathy Bogs SSSI, both of which underpin the SAC designation.

7.99 The application site is separated from the southern end of the Yellow Bog, part of the SAC, by only artificial drains. Instead of removing those human artefacts to re-establish

hydrological connectivity the applicant proposes to construct yet more drains and roads and build turbine bases. This is an area containing much deep peat.

7.100 Another opportunity for reconnection is the currently forested slope between the River Strathy and the Yellowbog Burn. Surface connectivity could be re-established between the blanket bog pool system to the north-west of Loch Strathy, down the slope to the Yellow Bog and the Strathy Bog. Instead the proposal would result in a new road across the slope between the River Strathy and the Yellow Bog which will prevent reconnection of the SAC to the north and south of this part of the application site.

Permanent infrastructure

7.101 The proposed bases and roads would not be removed; they would leave a legacy. To the best of RSPB Scotland's knowledge, the removal of floating roads is largely untried and untested.

7.102 Bases and roads would affect the flow of water and the natural spread of peat forming vegetation. Foundations require deep excavation; the majority of those proposed are below the bottom of the peat layer. Thus, the peat would be completely removed to be replaced by concrete and other foundation material. Unrecovered peat and plant material would form the limited re-surfacing. Some 39 foundations would be constructed each with its own impact on the peat and hydrology. Blanket bog restoration of these areas is not considered feasible.

7.103 Cut and floating roads are envisaged; both types impact adversely on peatland by disrupting hydrology. Floating roads are less bad than cut roads. If the aim is to re-link habitat and hydrology then a road running from one to another is a barrier to establishing blanket bog habitat. Surface connectivity is at least as important for the successful restoration of peatland habitat as deeper connectivity. The active, living surface vegetation layer of the bog depends upon rainfall and surface flow to provide the requisite levels of water.

7.104 There are already some forest roads on parts of the application site. It is important to note that these roads are limited in their extent and are engineered for much smaller vehicles and loads than would be required by the proposal. Construction of a network of roads for a wind farm tends to require a greater running width and a greater length of cut road to support heavier vehicles. Floating roads tend to compress the peat mass to a greater depth because of the greater mass of road material to accommodate heavier vehicles and roads. Even if, roads are "floated" upon a foundation of cut tree stumps, surface connectivity would still be impaired.

7.105 The applicant suggests that only a comparatively small area would be subject to permanent infrastructure. This misses the point; this is an area surrounded by internationally designated land of significant importance. The proposal is not the only method by which restoration of the application site could be effected. The road network would not be required if the trees were to be removed and the area subject to restoration. The proposal would result in a permanent legacy of some 32 kilometres of roads and 5 hectares of turbine bases directly affecting some 31 hectares and 15 hectares of habitat respectively. None of this infrastructure is required to effect the restoration of a critical gap in one of the UK's most important sites for biodiversity and, in particular, for Annex I habitats.

7.106 The applicant is yet to produce a finalised road plan. The applicant confirmed at the hearing that “there will be a detailed design [of the roads] at a later stage”. Therefore, it is unknown which roads would be floating and which would be cut; their locations are also subject to change. There is, therefore, no certainty that the effect of the roads would be as assessed by the applicant. Detailed probing of the application site, particularly within the micro-siting tolerance, has not taken place. Thus, there is no certainty about the depth of peat, the extent of the impacts of the permanent infrastructure on the peat or the effects of its removal. The assessments and calculations presented by the applicant must be treated with considerable caution.

Peat acting as a carbon sink and the likely impacts of development

7.107 At the hearing the applicant’s witnesses did not know the duration for which the excavated peat would be stored. It was suggested that it would “be [stored for] at least a year” in borrow pits. Even the space of a year, stored peat will degrade which would not be very good for using in restoration.

7.108 In terms of peat behaviour, it is suggested that when peat, a substance that grows, is removed and brought back it is not peat anymore. Put simply, peat is a fragile matrix of a little solid and a lot of water. The process of digging it up and moving it around destroys the internal structure of the peat mass. The original state arises from the solid component which has the basic structure of the surface vegetation which has compressed under its own weight; its specific structure and coherence is derived from how and where it has grown. If this is dug up and re-watered it is liable to become a peaty mush. The original internal structure, created over centuries or millennia, cannot be restored. The applicant’s proposed treatment would not result in peat that is the same as it was.

7.109 During the restoration programme at the Forsinard Flows reserve peat was taken and immediately placed in the drain thereby retaining as much of its profile as possible.

7.110 In terms of the volume of peat that would be wasted the applicant was unable to commit to a figure at the hearing. There “was no specification in the ES” on how stored peat was to be treated, and “there would be wastage but it is very difficult to quantify.”

7.111 The applicant may suggest that any perceived shortcomings in its proposed management of excavated peat can be adequately dealt with by condition. It is acknowledged that in usual circumstances this could be appropriate. Not so here. The applicant’s proposals for the extraction and storage of peat are fundamentally flawed. On the basis of the evidence, there is little realistic prospect that the 322,564 cubic metres of excavated peat would be anything other than waste.

Hydrological and drainage impacts

7.112 In response to the applicant’s suggestion that the impacts of drainage do not extend beyond 10 metres RSPB Scotland’s witnesses referred to the analysis presented in the peer-reviewed paper by Professor Joe Holden which demonstrates that the effects of drainage can extend to tens and even hundreds of metres. Professor Holden’s work, which is both peer-reviewed and published, demonstrates that surface flow can travel hundreds of metres. Self-evidently a drain would inhibit that flow. Whilst a floating road has “a smaller

impact” it can materially alter surface water flow. Thus, areas at considerable distances from a floating road can be adversely affected by a lack of water.

7.113 The effect of floating roads is not restricted to an absence of peat forming. Floating roads act as drains. That remains the effect even after they are removed because they create a depression. Regrowth is not relevant because the rate of regrowth is only 1 – 2 millimetres per annum. Thus, it would take hundreds of years to replace and stop the effect of a drain. Even allowing for less damage in areas already drained it is noted that the applicant proposes to re-wet the area. Where re-wetting is undertaken, a floating road compromises the success of the re-wetting process (acting, in effect, as a plug hole).

7.114 The applicant has not brought forward a finalised road design. It is clear that floating roads, whilst less harmful than cut roads, result in significant effects upon peatlands and hydrology. The proposed siting of a new road in the forested slope between the River Strathy and the Yellowbog Burn would prevent hydrological reconnection with the SAC and alter the existing surface water flow to the detriment of the peatland. The turbines and road proposed to the south of the Yellow Bog would have similar adverse effects upon the peatland.

7.115 The proposal would necessitate the excavation of some 322,564 cubic metres or thereby of peat from an area surrounded by the SAC. Drains, roads and turbines would be constructed all of which impact adversely upon the peatland. The proposal renders impossible the reconnection of the SAC to the north and south of this part of the application site underpinned by the Strathy Bogs and Skelpick Peatlands SSSIs respectively. The applicant did not challenge evidence that the removal of floating roads is “largely untried and untested”. It is therefore reasonable to consider the floating roads as permanent infrastructure which would not be removed upon decommissioning.

7.116 RSPB Scotland are unaware of any instances where using excavated peat has resulted in the successful creation of functional blanket bog that is viable in the long term. Referring to attempted restoration of former open-cast coal sites Professor Joosten and Mr Bain explained that the techniques proposed by Dr Dargie are both novel and experimental. Neither Professor Joosten nor Mr Bain judges such practices to be appropriate on such an important site which is wholly surrounded by an SAC. Instead Professor Joosten and Mr Bain advocate infilling the drains rendering redundant such inappropriate and experimental measures.

Grants and Funding

7.117 There are significant funding sources available from Government. In 2015 to 2016 there was £10 million available from agricultural/environment funds potentially unlocking an additional £10 million from other sources including the Heritage Lottery Fund and EU-Life funding.

7.118 SNH has also attempted to prioritise peatlands for restoration. Parties are agreed that the application site could be restored; the applicability criterion is therefore met. The application site is the most important area in Scotland so it will rank highly in the allocation of funds. It was explained at the hearing that the fear of taking money from other projects would mean that no money on any project would ever be spent. It was also noted that the projects being considered for funding by the Scottish Government Peatland Plan are

confidential. It would have been quite inappropriate for any witness to have breached that confidence.

7.119 The applicant will doubtless imply that the proposal is the only realistic prospect of achieving the restoration of the application site. The applicant has presented no evidence to support such an assertion. It is a matter of fact that considerable public and private funding exists to enable the restoration of peatlands. There is no suggestion, even from the applicant, that the application site is not a candidate. RSPB Scotland's witness (Mr Bain) confirmed that the site is "the most important area [of afforested blanket bog] in Scotland so it will rank highly" when decisions are made about the allocation of funding.

Impact on tentative Flow Country World Heritage Site status

7.120 The applicant asserted that the application site would be outwith any WHS because "forest effects are in no way outstanding global universal value... [the application site] is a highly damaged peatland environment." The reporter asked if the application site could have OUV if it was successfully restored. In response the applicant's witness referred to his "feeling" that World Heritage Sites feature only areas which have not been "fundamentally damaged". It was also noted that there exist "areas of far better quality" than the application site.

7.121 The witnesses opinion that there are "areas of far better quality" than the application site is wholly irrelevant; that is not one of the criteria against which applications for designation are assessed. The applicant is not involved in the assessment of candidate sites. Professor Joosten, on the other hand, mentioned his experience in the designation of several World Heritage Sites. Professor Joosten explained that sites have been designated because they are "the best available". In conclusion he employed the analogy of a fish and chip shop next door to a World Heritage Site to fund its restoration; Professor Joosten explained that he "can't imagine that a wind farm would be an aim of a World Heritage Site."

7.122 The conjecture about the likelihood of the Flow Country being designated as a WHS is of little relevance to the assessment of the proposal. Rather the issue is whether the proposal would enhance or detract from such an application. Professor Joosten is the only witness with involvement in the designation of several World Heritage Sites. It is his opinion that the proposal would make a successful application less likely because it is not an aim of a WHS. That is the only reasonable conclusion that can be drawn from the debate.

Assessment against designations

7.123 RSPB Scotland judges that the proposal would result in a likely significant effect upon the Caithness and Sutherland Peatlands SAC. The proposal is not directly connected with or necessary to the future management of the SAC. Thus, Scottish Ministers are required to undertake an appropriate assessment of the implications for the SAC in view of its conservation objectives.

7.124 However, RSPB Scotland suggests to Scottish Ministers that the proposal would not adversely affect the integrity of the SAC.

7.125 Of course, the application requires also to be considered in respect of Regulations 3 and 3A of the Habitats Regulations. At paragraph 3.2 of its Hearing Statement RSPB Scotland explains its interpretation, notably the "overarching responsibility on the Scottish

Ministers...to seek to restore this area to a state resembling that occurring before it was ploughed and afforested.” RSPB Scotland contends that the “overarching responsibility” will also be “a material consideration for Scottish Ministers in determining consent for the Project.”

7.126 In conclusion on peatland habitats:

- The Flow Country is of international importance. It is “the best and largest surviving example of a blanket bog system, the most globally important ecosystem in mainland Britain”.
- The aim of a World Heritage Site designation is to “conserve the best of the best”. Professor Joosten explained that he “cannot imagine that a wind farm would be the aim of a World Heritage Site”. In his expert opinion a wind farm within a World Heritage Site is not “in line with [World Heritage Site] objectives”.
- There exists funding from a range of sources to enable tree removal and restoration. The proposal is not the only method by which restoration could be achieved.
- The application site is unique; it is an island completely surrounded by internationally designated land. It is self-evidently a high priority for restoration to enhance the international designations surrounding it. The assessment of the effects of the proposal must, as a matter of law, be appropriate.
- There is no evidence to suggest that the application site differed from surrounding land prior to its afforestation.
- The application site shares blanket bog units with the SAC, notably at the area to the south of the Yellow Bog.
- Parties agree that the application site could be restored to blanket bog habitat. Even after afforestation the application site still supports some active blanket bog.
- The restoration of the application site could reconnect two parts of the SAC which are presently separated thereby enhancing its integrity.
- The proposal would prevent the full restoration of the application site.
- The proposal would be constructed on areas of deep peat and areas that are hydro-logically linked to the SAC, such as the area to the south of the Yellow Bog.
- The introduction of a road on the slope between the River Strathy and the Yellowbog Burn would render impossible any surface hydrological reconnection of the two disconnected parts of the SAC and alter the existing surface water flow to the detriment of the peatland.
- The locations and design of the roads have not yet been finalised. Detailed peat probing has not been undertaken, particularly in the areas where the permanent infrastructure is proposed and/or within its micro-siting tolerance. The applicant’s assessment of effects and its calculations lack the requisite certainty.
- Even if it were to be decommissioned the proposal, through its roads and turbine bases, would result in a permanent industrial legacy.
- Were the proposal to be consented the opportunity lost locally, nationally and internationally would be considerable.

The John Muir Trust’s position

7.127 The John Muir Trust (JMT) considers that it is not conceivable that the proposed extensive construction activities on application site could be carried out without significant

and probably permanent damage to what is a living organism (peat). Restoration, not destruction, should be the prescribed approach.

7.128 The Trust contends that the applicant's view as stated in the PMP that they would not excavate deep peat is erroneous. The definition of deep peat being at a depth of 1.5 metres is at odds with the view of SNH that deep peat is anything more than 0.5 metres.

7.129 Further the definition of what constitutes the acrotelm is flawed. In the PMP it is claimed that "acrotelm is the fibrous surface to the peat bog, typically less than 0.5 metres thick; which exists between the growing bog surface and the lowest position of the water table in dry summers. The majority of the peat found on the site is classified as upper acrotelm, very slightly to slightly decomposed with some fibrous content and moderate water content up to 1.5 m in depth. This material would be suitable for reuse without the need for any engineering measures".

7.130 Acrotelm is actually recognised as being between 0.1 and 0.4 metres deep anything beyond this is catotelm which needs to be handled in a totally different manner⁴²⁸. The PMP states that "The different soil horizons would be kept and stored separately for use at a later date". The Trust challenge this assertion. This methodology would expose the catotelm to the atmosphere and the very distinct possibility of drying out. Further transportation and storage of the catotelm allowing for reinstatement without additional damage is not possible. No definition of what the "temporary storage" constitutes is given in the PMP with regard to the catotelm. This is a major omission.

7.131 The assertion in the PMP that "peat and topsoil originally excavated at the temporary laydown areas, concrete batching plant, temporary construction compounds and borrow pits would be stored and also reinstated. Therefore, peat generated from these areas have not been included within the excavation volumes; however, it would still need to be managed on site". There is no reason why this large volume of peat is not included in the excavation volumes.

7.132 Reinstatement of the previously damaged peatlands by the earlier afforestation is a spurious argument in so much as there are already existing projects nearby where the trees are being removed and restoration taking place without the need to build a vast industrial scale power generation plant and without excavating and damaging huge volumes of peat.

7.133 The authors of the Scottish Government commissioned carbon calculator have stated "we contend that wind farms on peatlands will probably not reduce emissions, unlike those on mineral soils...Unless the volume of peat excavated can be significantly reduced relative to energy output, we suggest that construction of wind farms on non-degraded peats should always be avoided"⁴²⁹.

7.134 The Trust accepts the figures put forward by the applicant in their Further Information Report (2014) from access tracks; drainage ditches on cut tracks; cut off ditches for floating tracks; foundations; hardstandings; and switching station compound. This would amount to some 242,359 cubic metres of extracted peat. This omits very large quantities of peat for the laying down of cables. The Trust disagrees that these quantities of peat are not

⁴²⁸ IUCN UK Committee Peatland Programme Briefing Note No 2 Peat Bog Ecosystems : Structure, Form, State and Condition.

⁴²⁹ Letter in NATURE magazine, 'Avoid constructing wind farms on peat' 6th September 2012 - Jo Smith, Dali Rani Nayak, Pete Smith University of Aberdeen, UK.

included and would suggest that within the PMP there is a lack of specified detail and a lack of transparency.

7.135 The applicant suggests that peat could be stored for a period of over a year. The Trust does not agree that this is a short period. In a year the exposed peat could be exposed to the extremes of the Scottish weather from significantly below freezing temperatures to hot summer temperatures with the related varying degrees of precipitation. The Met Office 3 year average statistics indicate an average minimum in December of -1.3 degrees centigrade, January -0.8 and February -0.8 (to achieve this average there will be a considerable number of days when the temperatures are significantly below the average). Hard frost is highly damaging to the structure of peat as is excessive drying.

7.136 The Trust estimates that the following volumes of peat are not included and the methodology by which they will be managed is not included in the PMP. For a comparative understanding of volume it is worth noting that an Olympic sized swimming pool has a cubic capacity of 2,500 cubic metres. From the figures presented by the applicant, the Trust suggests that anything between 53,800 cubic metres (using the lowest estimated peat depth of 0.5 metres); 67,789 cubic metres (using average peat depth 0.63 metres); or 114,057 cubic metres (with an upper estimate peat depth of 1.06 metres) could be extracted from borrow pits. The largest figure equates to 45 Olympic swimming pools.

7.137 The volumes of peat that would be excavated for cables are not included in any calculations. Using the applicants figures in the PMP the channels excavated would be 0.5 metres wide and 0.8 metres deep running alongside the roads/tracks. There would be some 21 kilometres of cut track and 10 kilometres of floated track. Therefore, some 31,967 cubic metres of additional peat for the cabling would be extracted (equal to 5 Olympic swimming pools). The applicant's assertion that cabling would use ploughing or be incorporated into any floated track design is a change from what is in the PMP but it does not actually give any commitment or certainty. However, by coming up with this statement, it allows the applicants to apparently ignore quite a lot of peat.

7.138 Taking the upper estimated borrow pit extraction, the cable track extraction and the applicant's estimated extraction the Trust calculate the actual peat to be extracted as 388,383 cubic metres (some 155 Olympic swimming pools in volume).

7.139 The applicant's assumption that there would be no peat loss/wastage of peat during construction work and storage is challenged (the table identifies the amount they suggest would be excavated which is exactly the same as that which they will reinstate). This would be impossible.

Peat storage and maintenance

7.140 Whilst initially the applicants proposals would seem to be practical, in reality they are spatially impossible if the peat is to be conserved and reinstated without damaging other surfaces/areas of peat.

7.141 Storage of any peat in the borrow pits cannot be achieved until the rock or sand or gravel is excavated and this cannot be achieved until the foundations are excavated. Therefore, the key question is where do you store the peat between excavating it and creating the borrow pits? Additionally, the volume of peat would be larger than the amount excavated unless the peat is compressed back together as there will be significant air

pockets within the piled up sections of peat. Alternatively, if the peat is very wet then the catotelm will turn to “brown soup” losing its structure and hydrological properties.

7.142 As detailed within the CEMP “the excavation of soils would be undertaken in such a manner as to avoid cross contamination between distinct horizons, where possible. The different soil horizons would be kept and stored separately for use at a later date. During and after excavation, storage, haulage and reuse of excavated material would be planned to minimise material movement around the site. Where possible, immediate reuse would be preferred to temporary storage. Turves would be stripped and handled with care and kept vegetation side up such that damage to the living vegetation mat would be prevented or minimised as far as possible”.

7.143 The mathematics of the statement above do not work. Further, if the applicant intends to store the turves separately from the rest of the peat then that would be bad practice as the surface layer provides protection for the lower layers. If this is to be permitted then the technical detail of how and how often the peat is to be wetted and also protected from extremes of the climate would need to be identified and shared with an independent consultant for verification of the proposal.

7.144 If it is accepted that the turves would be kept “vegetation side up” but separate from the catotelm it would require an additional storage area as large as the surface area excavated which in itself would generate turves in order to strip the surface for storage or the turves would need to overlay existing turves.

7.145 With regard to the mechanism for controlling and monitoring the extraction, storage, maintenance, and final restoration of the peat we would suggest that in addition to an Ecological Clerk of Works a fully independent research project be funded by the applicant to this end. The project would report to the Highland Council, the applicant and other interested parties bi-annually during construction and then annually during the restoration project if the development is approved by Scottish Ministers.

Reporter’s findings

7.146 The application site is located within an extensive area of deep peat resources. However, the majority of the peat resource on the application site itself has been highly modified by the processes required to plant and manage evergreen commercial forestry. These processes included furrow ploughing to create channels to plant seedlings; the creation of drainage ditches; and the formation of access tracks. The impact of commercial forestry on the application site has had a dramatic effect on the composition of the peat resource with the water levels being reduced and peat layers (acrotelm and catotelm) being compromised.

7.147 There is no dispute from parties that the planting of commercial forestry at the application site has caused detriment to the peat resource. There is a clear indication from the Forestry Commission that the felled trees are not to be re-stocked to ensure habitat benefits to the adjoining Caithness and Sutherland Peatlands SAC and SPA. There is no dispute that the trees should be removed. The use of specialist low impact equipment and methods during felling operations would ensure minimal damage to any areas of remaining peat resource.

7.148 There are areas of deep peat on the site which retain typical characteristics and act as blanket bog (particularly to the south around the Yellow Bog). However, the majority of the site now contains little active peat. The site fails to act as a carbon sink but as a source. It is apparent that the design and layout of the proposed application, modified over time, has taken account of known areas of deep peat resources and avoided these where possible. In addition, the use of low impact equipment and methods to remove the trees and protect any peat resources, micro-siting and floating roads would help to further minimise the impact on the remaining peat resources at the site. It would be highly unlikely that the developer would choose areas of deeper peat than already identified when micro-siting the positions of the turbines and other infrastructure.

7.149 The proposal to restore the application site to active blanket bog is ambitious but achievable (as proven by other projects such as at Forsinard Flows). Restoration would provide significant habitat and carbon benefits. The site would, over time, move from being a carbon source to a carbon sink. The proposal would restore over 1,300 hectares of tree covered peatland; a considerable area when taking into account that some 2,600 hectares of afforested peatland was restored over the last 15 years in Scotland. I recognise that restoration at the site could be achieved at a faster rate in the absence of the wind farm proposal (as the construction phase would be omitted). However, there are no other proposals for the application site to be restored at present.

7.150 The proposed development would provide restoration of the application site without the need to pursue Scottish Government monies, European grants or funding streams directed at peatland restoration. Consequently, the proposal would provide a greater benefit by enabling restoration of the application site but also leaving directed funding for other projects. I appreciate that the restoration could be achieved by using the directed funds or by the erection of a smaller number of wind turbines, be it community owned or otherwise. However, there are no proposals for a small-scale turbine array to fund peatland restoration on the application site. And, there are no known prescribed plans by any party or body to actively restore the application site, and thereby unlock available grants and funding.

7.151 I consider that there is sufficient scientific evidence to suggest that the peat could be successfully extracted, stored, re-instated or restored with very little wastage. The applicant estimates the extraction of 322,564 cubic metres of peat; all of which would either be re-instated or restored.

7.152 I accept the argument from the John Muir Trust that the actual amount extracted may be higher as not all peat depths will be known until the actual construction works are undertaken. I also follow the arguments of the objectors with respect to the storage of peat, in particular the separation of acrotelm, catotelm and turves, and the avoidance of a soup-like substance being created. However, the fact that the peat has already been highly modified as a consequence of forestry activity carries significant weight in addressing this point. The applicant has given a decent estimate of extraction based on its understanding of the site and surroundings. The application of a peat management plan, habitat management plan and construction environment management plan (all subject to condition), and best practice, would help to ensure that peat was stored and maintained appropriately before being re-instated or used in the restoration. The atmospheric conditions would likely not unduly affect the storage. This could also be informed by, and provide an opportunity for, academic research.

7.153 There is a risk associated with peat removal and storage if mismanaged. However, I would anticipate that the controls suggested by the application (and enforced by condition) would ensure close monitoring, in association with academic research, to enable minimal wastage. It would be unrealistic to suggest that there would be no wastage. The figure of 10,645 cubic metres of waste suggested by the applicant gives a useful indication.

7.154 It is difficult to imagine 322,564 cubic metres in volume. I asked parties to provide figures to allow some form of measurement to help gauge the significance of the extraction and wastage. The applicant's estimate of extracted peat would equate to some 1.6% of the application site and would represent some 0.011% of the Caithness and Sutherland Peatlands Special Area of Conservation peat volume. I consider that this level of extraction is not significant in relation to the application site and would have a miniscule impact on the wider SAC peat volume. The level of potential wastage from extraction, movement, storage and maintenance of peat would represent an even smaller proportion. Even if greater quantities of peat were extracted and more was to be wasted during construction and restoration activities the impact on the peat resources, which has been highly modified, on the site (and as a proportion of the wider SAC) would likely continue to be insignificant.

7.155 The applicant's offer to fund peatland management on adjacent land at Armadale Farm is generous. It would provide the farm owner with a guaranteed income for a set period of five years, with the potential for funding for the duration of the proposed wind farm. The management of the peat habitat (less invasive farming practices, controlled drainage, and floating rafts) would be of benefit to the application site as there would be potential hydro-connectivity between it and the farmland. Furthermore, the management practices could provide attractive refuges for breeding birds (potentially those disturbed from the application site itself). Therefore, although "off-site", I find that there would be a relationship with the application site. Consequently, the proposed peatland management of Armadale Farm could be considered as a further benefit that would arise if the proposed wind farm was granted consent.

7.156 The proposal for a Flow Country natural World Heritage Site has been a long-term aspiration of conservation groups. It is clear from the submissions that achievement of WHS status requires detailed research and analysis to demonstrate sufficient outstanding universal value. As suggested by its numerous protective designations, the Flow Country is clearly of national importance. However, at present, there is a research gap in relation to the global significance of the Flow Country in relation to peatland habitat and bird species. It is not my role, or the remit of Scottish Ministers, through the Strathly South Wind Farm consenting process to determine whether the Flow Country has sufficient outstanding universal value to be designated a WHS. Following the submission from RSPB Scotland, I agree that what is of interest to the determination of the proposed development is whether granting a wind farm in this location would support or hinder any future designation.

7.157 The Flow Country is not currently designated as a WHS; and no potential boundary has been identified as yet for a nominated site. Therefore, it would not be appropriate to assess the proposed development against any WHS criteria set out in policy provisions (such as those presented in Scottish Planning Policy). Furthermore, it is difficult to predict the outcome of the proposed development on any future nomination for WHS status. In its present state the application site appears to provide little outstanding universal value with the commercial forestry of detriment to the peat resource and few opportunities for protected birds to reside, breed and forage.

7.158 Restoration of the site would enhance the value of the site to a level that could be considered comparable with other areas of the Flow Country which have significant peatland and habitat value. However, the presence of wind turbines and associated infrastructure may have a negative impact, particularly if the site was actively managed to dissuade breeding birds. Then again, the application site is a relatively small component of the vast area known as the “Flow Country”. The benefits of restoration could balance any negatives in relation to the contribution of the site to any World Heritage Site nomination. The presence of wind farms did not lead the expert panel to dismiss the areas authenticity and it is likely that the integrity of the Flow Country would remain. However, overall, I find that I cannot definitively conclude whether the impact of the proposed development would harm or enhance any future World Heritage Site nomination.

7.159 The applicant has not sought to argue that the proposed development would be temporary. However, it was suggested through discussions at the hearing sessions that a further assessment of impacts would be conducted in the future should an application to re-power the site be made; at which time the relevant policy and energy provisions would be considered. In any case, at some stage in the future the site would be decommissioned. At that point some infrastructure, particularly the foundations and some access tracks, would be left in situ. In the absence of the proposed wind farm some “legacy” of the forestry activity, particularly access tracks and drains, could remain (especially if a programme of active restoration was not funded and implemented on the site). Therefore, it is likely that the site would retain some man-made interventions no matter the outcome of the proposed development. Nevertheless, I consider that leaving foundations (and any other infrastructure) would not have a significant impact on the peatland habitat as these legacy items would represent a small proportion of the overall site area.

7.160 As part of a live ecosystem hydro-connectivity between areas of peat is important to ensure habitat communication, flow and active growth. The use of floating roads, primarily when peat is at a depth of 0.5 metres or greater, would help to minimise the impact on the peat resource and enable hydro-connectivity to continue, particularly in the southern end of the application site around the Yellow Bog. I accept that some connectivity in the upper levels of the peat structure may be reduced, and that drainage could be impaired. However, I consider that the engineering, and monitoring of the use, of the floating roads would not significantly impact on the hydrology through, drainage alongside, or the composition under (avoiding compaction) the peat. Islands of isolated peat would not be created.

7.161 The qualifying interests of the Caithness and Sutherland Peatlands Special Area of Conservation include high-quality freshwater loch habitats (oligotrophic to mesotrophic standing waters); natural dystrophic lakes and ponds; blanket bog (if active a priority feature); wet heaths; transition mires and quaking bogs; depressions on peat substrates; otter and marsh saxifrage.

7.162 Scottish Natural Heritage (the main natural heritage advisory body) suggests that the application site is not connected with, or necessary for, the conservation management of the SAC. Furthermore, although SNH initially objected to the application in relation to impacts on the qualifying interests, the body confirms that “the proposal is no longer likely to have a significant effect on internationally important natural heritage interests.” And, “in our

view, it is unlikely that the proposal will have a significant effect on any qualifying interests either directly or indirectly. An appropriate assessment is therefore not required".⁴³⁰

7.163 It is important to note that the application site is not designated within the SAC boundary but sits as an island within it. Nevertheless, development could impact on its qualifying interests. However, I agree with SNH and the applicant, that it would be unlikely that the proposed development would have significant effects on the SAC. The peat extraction methods, storage, reinstatement, and restoration would ultimately be of benefit by re-creating blanket bog and attractive habitat currently of qualifying or primary interest across the SAC boundary. I therefore recommend that Scottish Ministers are not required to carry out an assessment, under Regulation 61 of the Conservation of Habitats and Species Regulations 2010, in relation to the SAC.

Summary of findings

7.164 In summary, I find that:

- Commercial forestry has damaged peatland on the application site. It's removal is endorsed by parties and would be of benefit to the site and surrounding peatland. Restoration of peatland is universally applauded. On the application site, in the context of previous projects, restoration would provide a considerable and significant area of restored peatland habitat over a progressive period (0-25 years).
- The estimated levels of peat extraction would not equate to a significant volume when considered in the context of the site or the wider SAC designation. Extracted peat could be successfully re-instated, moved, stored, maintained and used in restoration. Peat extraction would provide a useful field of research for the Environmental Research Institute in Thurso which could inform practice.
- The restoration of the application site would not draw on peatland restoration funds which could therefore be used elsewhere.
- The use of floating roads would help to minimise peatland impacts and allow areas of peat to "communicate" with hydro-connectivity retained.
- It is not appropriate in the context of determining the proposed development to second-guess the nomination and designation process for the Flow Country World Heritage Site. However, overall, it is likely the proposed development would have a neutral effect on any application with the benefits of restoration balancing the impacts on habitat and protected species.
- The proposal would not be likely to have a significant effect, either directly or indirectly, on the Caithness and Sutherland Peatlands Special Area of Conservation. An assessment under Regulation 61 is not, therefore, required.

⁴³⁰ SNH consultation responses dated [17 September 2004](#); [25 September 2007](#); [2 October 2007](#); [20 November 2013](#); and [8 January 2015](#). [SNH R1-R5]

CHAPTER 8: CARBON PAYBACK PERIOD

Evidence on carbon payback

8.1 Key evidence with respect to the carbon payback period includes:

- Technical appendix A4.4 of the 2013 ES addendum (the carbon calculation)⁴³¹.
- Technical appendix 4.2 of the 2014 FIR (amended carbon calculation)⁴³².
- Written responses to procedure notices from the applicant⁴³³; the Scottish Environment Protection Agency (SEPA)⁴³⁴; RSPB Scotland⁴³⁵; The John Muir Trust⁴³⁶; and Mr Peter Batten (an objector)⁴³⁷.

Scope of evidence

8.2 The requirement for new applications to produce a carbon balance assessment came into force in June 2011. The carbon calculator is a method introduced by the Scottish Government to assess carbon losses and savings. The carbon payback time of the wind farm is calculated by comparing the loss of carbon from the site due to wind farm development with the carbon-savings achieved by the wind farm while displacing electricity generated from coal-fired capacity or grid-mix.

8.3 Being lodged before the requirement, no carbon assessment was needed to accompany the original application for 77 wind turbines. However, when modifying the application to 47 turbines the applicant provided a carbon calculation using version 2.7.0 of the carbon calculator which was endorsed by SEPA⁴³⁸. The findings are presented in technical appendix A4.4 of the 2013 ES addendum.

8.4 A further calculation was produced when the number of turbines was reduced to 39 (with associated reduction in track and borrow pit formation). Version 2.9.0 of the carbon calculator was used as shown in technical appendix 4.2 of the 2014 FIR.

8.5 Submissions from Mr Batten⁴³⁹ and RSPB Scotland suggest that the carbon calculation is substantially incorrect and provides an under-estimate of the actual impact of development. An independent review of the carbon assessment was commissioned by RSPB Scotland to inform its objection⁴⁴⁰.

8.6 At the pre-examination meeting it was agreed that the carbon assessment could be addressed by means of written submissions. The note of the pre-examination meeting requested parties to provide information on the subject, with three further written requests for information, as follows:

⁴³¹ 2013 ES Addendum, technical appendix A4.4 - applicant's carbon calculation. [CD 4.4]

⁴³² 2014 Further Information Report, technical appendix 4.2 – applicant's carbon calculation. [CD 5.1]

⁴³³ Applicant responses dated [9 March 2015](#); [31 March 2015](#); [28 May 2015](#); [22 June 2015](#); [13 July 2015](#) & [27 July 2015](#).

⁴³⁴ SEPA responses dated [25 November 2014](#); [3 March 2015](#); [14 May 2015](#); [28 May 2015](#) & [9 July 2015](#).

⁴³⁵ RSPB Scotland responses dated [9 March 2015](#); [31 March 2015](#); [28 May 2015](#); [19 June 2015](#) & [13 July 2015](#).

⁴³⁶ Responses from the John Muir Trust supporting Mr Batten's position dated [9 March 2015](#) & [17 July 2015](#).

⁴³⁷ Mr Batten responses dated [9 March 2015](#); [18 March 2015](#); [19 March 2015](#); [31 March 2015](#); [18 May 2015](#); [19 June 2015](#); [13 July 2015](#) & [27 July 2015](#).

⁴³⁸ [Letter from Cerian Baldwin \(SEPA\) to Kate Lyon \(ENVIRON\) dated 11 February 2014.](#)

⁴³⁹ [Response to 39 wind turbine application from Mr Batten dated 8 January 2015.](#)

⁴⁴⁰ [RSPB Scotland's independent carbon impact assessment review submitted 15 January 2015.](#)

- An assessment of any recent policy change in relation to carbon capture and carbon calculations (e.g. The Waldron Review).
- Whether the carbon calculation period provided by the applicant is correct, and if not the reasons for any difference in an alternative calculation.
- Whether the Scottish Environment Protection Agency (SEPA) provides validation of carbon calculation assessments, and whether these can be requested.
- A formal request to SEPA to validate the amended carbon calculation provided to the inquiry in relation to the proposal for 39 wind turbines.
- Commentary from SEPA (and others) on the exchanges on the carbon payback matter.
- Commentary from SEPA on the illustrative carbon payback periods submitted by the applicant (the expected payback time, fossil fuel equivalent, of 1.2 years; the range of payback time 1.2 to 9.6 years; and the expected ratio of carbon dioxide equivalent emissions to power generation of 30g/kWh).

The applicant's position

8.7 The objections from Mr Batten and RSPB Scotland agree with many of the input parameters used in the carbon assessment but query certain assumptions and inputs used, including those related to forestry felling, drainage, restoration timescales, and counterfactual emissions.

8.8 The 2013 scheme for 47 wind turbines was calculated to have a 1.5 year carbon payback period (based on a fossil fuel mix of electricity generation). However, following discussions with SEPA on the methodology and inputs the payback period was revised to 0.8 years for this scheme.

8.9 The calculation for the revised (and current) 39 wind turbine application used the updated carbon calculator (version 2.9.0). The results estimated a 1.1 year carbon payback period. A slight increase over the previous scheme which is to be expected due to the reduction in the number of wind turbines generating electricity. The addition of new core input data on average peat depth; improvement of degraded bog; improvement of felled plantation; and restoration of peat removed from borrow pits has altered the payback period.

8.10 The ratio of carbon dioxide equivalent emissions to power generation (g/kWh) is expected to be 32 grams per kilowatt hour (g/kWh). The Scottish Government 2030 decarbonisation target to achieve a carbon intensity of 50 g/kWh of electricity generation in Scotland is a goal applicable at the national level and is not applicable to individual developments.

8.11 For a period SEPA were not validating carbon assessments. This included the 2014 FIR calculation. However, the applicant notes that SEPA validated the 2013 ES addendum carbon calculation and that the only parameters to change (and not subject to validation) were the four mentioned in paragraph 8.9. The applicant welcomes SEPA's view that it "confirms that there is sufficient confidence in the expected carbon payback figure submitted as part of the Further Information Report (FIR) in November 2014 for it to be used by Scottish Ministers as a material consideration in their decision making." And that, "the applicant has provided satisfactory justification of the issues identified in SEPA's carbon validation response provided on 14 May 2015". The carbon calculator and

calculation submitted in 2014 continues to be valid and fit for purpose. However, for the purposes of illustration, the applicant revised the calculator (to the extent possible) to reflect SEPA's recommended alterations to the input parameters; the net cumulative effect being:

- An increase in the expected payback time (fossil-fuel equivalent) from 1.1 to 1.2 years.
- An alteration in the range of payback time (fossil-fuel equivalent) from -0.5 to 4.6 to -0.6 to 9.7 years.
- An increase in the expected ratio of carbon dioxide emissions to power generation from 32 to 34 grams per kilowatt hour (g/kWh).

None of these changes in output is considered significant and well within the range of the original consultation.

8.12 The applicant argues that alternative carbon calculations should not be considered valid as they either use different tools, assumptions or deviations from the mandated version of the tool prescribed by the Scottish Government. The RSPB Scotland review of the carbon assessment predicts a payback period of 7.3 years. However, the review was undertaken using different assumptions to those adopted in the 2014 FIR. The key difference being the inclusion of forestry felling, which, as noted below, SEPA confirmed to exclude. In addition, the review suggests that site-specific data should be used for a number of parameters. However, as part of the validation of the 2013 ES addendum carbon balance assessment, SEPA requested that generic data was used rather than the site-specific data originally entered.

8.13 The applicant is strongly of the view that discussions on the limitations or drawbacks of the calculator tool is properly the remit of expert review groups specifically tasked with that purpose by the Scottish Government. Developers are specifically prohibited from making alterations to the tools in models intended for submission with consent applications; nor would the applicant seek to do so, according to the Scottish Government "the purpose of the tool is to assess in a comprehensive and consistent way the carbon impact of wind farm developments". Any alterations would therefore invalidate this consistency.

8.14 No reference has been made at any point during the submission of the application to Scottish Natural Heritage's carbon map because it is an emerging document subject to consultation and subsequent revision; its stated purpose is not for impact assessment but to inform spatial frameworks and inform siting decisions; and the resolution of the map is insufficient to allow it to be used for assessment purposes.

Input parameters

8.15 In relation to forestry felling, it is widely accepted that forestry on peatland sites such as the application site is not appropriate, particularly as the site is in close proximity to the Caithness & Sutherland Peatlands Special Protection Area. Forestry Commission Scotland did not require compensatory tree planting on this site⁴⁴¹. Therefore, the applicant argues that whether or not the application was to be granted all the forestry would ultimately be removed from the site with no re-stocking. The applicant contacted SEPA in advance of preparing the 2013 ES addendum on this matter. SEPA confirmed that the approach was

⁴⁴¹ [Letter from Forestry Commission Scotland including guidance on forestry plans dated 5 October 2011.](#)

suitable and the carbon calculator used was signed off by SEPA based on the assumption that forestry could be excluded⁴⁴². The same assumption was used in the preparation of the 2014 FIR carbon calculation. In the illustrative re-calculation the removal of forestry (minimum 24 hectares / maximum 1133 hectares) was included; which uses the build area for the 47 wind turbine proposal not the 39 proposed and, therefore, is a conservative estimate.

8.16 In relation to drainage, the extent of drainage reported for the 39 turbine layout carbon calculator was determined in light of published ranges (expected 10 metres; minimum 5 metres; and maximum 25 metres). The fact that the site is forested, and field observations, were taken into account. Notably, the site is relatively flat and below the level impacted by forestry, the peat is relatively well decomposed (lower hydraulic conductivity). Both these characteristics result in reduced extent of drainage. Furthermore, the micro-topography of the site is a repeated mix of rough plough, plough furrow and original surface, modified by tree litter. Therefore, published ranges together with site-specific conditions were used to inform the drainage input; along with professional judgement on what drainage extent values would be appropriate. The values used as considered to be appropriate, and appear to be considered appropriate by the RSPB Scotland's independent reviewers⁴⁴³. Studies indicated by RSPB Scotland are not considered comparable with the drainage characteristics of the application site. In any case, the values used are considered to be a conservative estimate based on the drained / afforested nature of the site (meaning the site is already significantly impacted by forestry / drainage and hence water table levels are artificially low). SEPA considers the data used to be reasonable.

8.17 In relation to the regeneration of bog plants, the inputs are based on professional judgement of a senior ecologist, Matt Pannell. The estimated time periods for regeneration were based on his practical experience monitoring vegetation and hydrology of restoration of other wind farm sites (Blacklaw, Clyde and Whitelee are examples). The estimates take into account altitude, exposure, site wetness, existing vegetation and new techniques for increasing the rate of recolonisation (sphagnum beads for example). Although not peer reviewed, this does not mean that the estimates are unreliable. The values fall within the time period observed (5 years) for the strong development of bog vegetation noted for restored peatland in recent Forestry Commission studies on blanket bog in the Flow Country. It is noted that SEPA agrees that the stated expected time of 15 years (minimum 10; maximum 20) is reasonable.

8.18 In relation to site improvement, it is argued that the period of time when effectiveness of improvement in degraded bog/improvement in felled plantation/restoration of peat removed from borrow pits can be guaranteed. The carbon calculator for the 39 turbine proposal has been informed by reference sources quoted by Natural England, principally PhD work by Saya Sheridan which suggests "restoration of blanket bog vegetation is clearly achievable within a relatively short timescale that is dependent on the size of the trees and hence depth of the wood chip. Plant community recovery following in situ chippings of trees (yield class 10) that are 20, 25 and 30 years old is predicted to take 7, 9 and 10.5 years respectively." It is noted that SEPA agrees with the applicant's position on this point. Furthermore, the applicant does not agree that habitat restoration and the wind farm infrastructure are separable objects.

⁴⁴² Email from Susanna Sebastian (SEPA) to Kate Lyon (ENVIRON) dated 8 July 2013.

⁴⁴³ See page 23 of [RSPB Scotland commissioned 'Independent review of carbon impact assessment'](#).

8.19 In relation to the capacity factor, although RSPB Scotland suggest site-specific data should be used the technical note providing guidance on using the carbon calculator states that “capacity factors for Scotland range between 27% and 34% (DTI, 2006). Site specific capacity factors may be determined at the site planning stage, and should be used preferentially in these calculations. If these are not available, calculations for Scotland should be repeated with capacity factors 27% and 34% to give estimates of the lowest and highest carbon emission savings.” Site-specific information was not used for the site at the time of submission, as the turbine model is not finalised at this stage. A candidate turbine is used in assessments. Therefore, the capacity factor cannot be accurately predicted and a range is all that can be provided. The expected value is taken from Energy Trends (September 2014) which was the most up-to-date version at the time of submission of the FIR in November 2014. The published load value for onshore wind for 2013 is 28.9%. The carbon calculator presents a figure of 28.1% (a typo) but running the calculator again with the correct figure provides no difference to the calculated payback period. The approach used to capacity factor was validated by SEPA in the 2013 carbon calculator and used again in the 2014 FIR calculation.

8.20 In relation to counterfactual emissions, the values presented in the carbon calculator with the 2014 FIR were based on published data taken from the Digest of United Kingdom Energy Statistics 2014 and used the data available for 2013. The same approach was used in the validated carbon calculator of 2013 and was considered an appropriate approach by SEPA. The review of the carbon calculator mentioned by Mr Batten is likely to be led by Professor Susan Waldron to consider potential enhancements to the carbon calculator and its extension to other renewable energy developments that currently fall outwith its scope. A questionnaire sent out to stakeholders as part of the review did not seek explicit opinion on the use of counterfactuals but personal comments to aid future improvements. Until the review is published and any changes made the approach taken by the applicant is considered appropriate. In any event, the applicant’s view is that any subsequent changes should not apply to the application as the relevant policies were followed at the time of submission/modification.

8.21 In relation to cut track depth, the widths of cut track vary in the same manner as the floating road (between 4.5 and 8 metres). Similarly, the depth of cut tracks vary from 0 to 1 metre. The applicant notes that floated track is intended when peat depths exceed 0.5 metres, so the cut track depth included within the carbon calculator is considered to be a conservative estimate.

8.22 In relation to peat depth, the applicant disagrees with SEPA that the minimum and maximum peat depth values (0 metres and 5 metres) are unreasonable as these are thought to be conservative. Nevertheless, the applicant suggests that a calculation based on a spread of available peat probing at the site provides a maximum and minimum of 2.13 metres and 0.28 metres respectfully. Using these values has no discernible effect on the carbon calculator outputs.

8.23 In relation to turbine foundations, the foundations would be 20 metres in diameter but total excavation would be 40.2 metres. This is because a larger excavation void is required for the construction of the turbine foundation. The bulk of the peat removed to facilitate the construction is then backfilled with the exception of the area occupied by the turbine foundation itself. Inclusion of this excavated volume in the carbon calculator would result in an over estimation of the carbon losses as the calculator assumes 100% loss of carbon for all excavated peat. Clearly this is not the case in this instance.

SEPA's position

8.24 SEPA confirms that its role is to ensure, in situation such as this, that the applicant has used the carbon calculator tool correctly, following the relevant guidance, and that appropriate and justifiable numeric values are used.

8.25 SEPA endorsed the carbon calculator produced for the 2013 ES addendum in February 2014. In response to an enquiry from Mr Batten, SEPA confirmed in November 2014 that it was currently no longer auditing or validating carbon assessments for the Scottish Government. In March 2015, SEPA further confirmed that work was being undertaken to migrate the carbon assessment tool online, and consequently no validation was being undertaken unless formally requested.

8.26 In response to the reporter's formal request for a validation of the 2014 FIR carbon calculator and assessment SEPA initially suggested in May 2014 that there was not sufficient confidence in the carbon payback period figure for it to be used as a material consideration by Scottish Ministers in their decision making. SEPA considered that further justification for some input parameters was required on forestry felling and improvement of degraded bog, improvement in felled plantation, and restoration of borrow pits; and that realistic values should be entered for others, particularly those related to peat extraction.

8.27 In July 2015 it responded that satisfactory further justification had been provided on input values relating to maximum and minimum values for excavated road with and peat excavated for road; average depth of peat at site; average length and width of turbine foundations; average depth of peat removed from turbine foundation and hardstandings; period of time when effectiveness of improvement can be guaranteed; drainage impact; and average water table depth on site.

8.28 The main area of remaining "uncertainty" in relation to the resultant payback period relates to the forestry component (the carbon stored in timber) of the calculation and, specifically, what area (hectares) of forestry to include and exclude in the carbon sequestration losses calculation. The applicant has not included any area of felled forestry in the calculator, following the Calculating Potential Carbon Losses & Savings from Wind Farms on Scottish Peatlands Technical Note. This guidance states "if a forestry plantation was due to be felled with no plan to replant, the effect of the land use change is not attributable to the wind farm development and should be omitted from the calculation". The applicant has thus not included the whole proposed area of felled forestry (1133 hectares). The exclusion of the forestry component has been challenged by RSPB Scotland and by Mr Peter Batten, with concerns principally relating to whether or not the felling of the trees was directly attributable to the development, and raising issues regarding the relevant hectareage that should be considered.

8.29 Recognising the significance of this element of the calculation, SEPA provided a sensitivity analysis of the payback period including the whole proposed area of felled forestry (1133 ha). The analysis shows that if the total proposed area of felled forestry is accounted for the payback time increases to the expected, minimum and maximum payback times. However, SEPA accepts that the Forestry Commission Scotland communication with the applicant (and guidance from the commission and Scottish Natural Heritage attached to the communication) identify the primary reason for forestry felling and not replanting was to support the nature conservation objectives of the adjacent SAC and

SPA. Consequently, the felling should not be taken account of in the carbon calculation assessments for the application.

8.30 Furthermore, given that no specific guidance on site restoration is provided in the carbon calculator guidance, and that the applicant has committed to restoration of felled forestry areas, SEPA agree with the incorporation of the claimed benefits of site restoration in the carbon calculator providing that appropriate measures for peatland restoration are identified in the habitat management plan.

8.31 Other parties dispute whether or not such is the case. SEPA has no bias in this matter and would simply point out that whatever the situation, the hectareage of felling directly attributable to the development must lie somewhere between 0 ha and 1133 ha, and/or if the amount of peatland restoration directly attributable to the development is not the whole area equivalent (1133 ha) then the expected payback period must fall somewhere between the two values 1.7 years (0 ha) and 4.3 years (1133 ha) expected payback.

8.32 Overall, SEPA considers that the applicant has provided satisfactory justification of the issues. The changes in the expected minimum payback time over the carbon calculations submitted as part of the FIR 2014 are small. However, the maximum payback time has increased by 5 years (4.6 to 9.6) which doubles the payback time range from 5.1 years (-0.5 to 4.6 years) to 10.2 years (-0.6 to 9.6 years). SEPA notes that two of the main factors that contributed to the large increase of the maximum payback time, the increase of the maximum drainage distance from 25 to 50 metres and the alteration of the maximum turbine foundation dimensions to the maximum excavation diameter, reflect a precautionary approach to the calculation.

8.33 SEPA confirms that there is sufficient confidence in the expected carbon payback figure submitted as part of the Further Information Report in November 2014 for it to be used by Scottish Ministers as a material consideration.

RSPB Scotland's position

8.34 RSPB Scotland acknowledge that there is no defined limit or threshold for what is considered to be an acceptable or unacceptable payback period by the Scottish Government, although developers are expected to follow best practice for minimising carbon emissions and disturbance of peat. It notes that the estimated carbon intensity is given for information only as an aid to show to what extent a wind farm supports the national target. The society also notes from the Scottish Government response to Question S4W-19111 on 28 January 2014 in the Scottish Parliament that the average carbon payback period for wind farms where the developers have used the carbon calculator, and that have been consented by Scottish Ministers, was at that time 1.6 years, and the maximum was 1.9 years.

8.35 The RSPB Scotland commissioned an independent review of the carbon impact assessment which was carried out by employees of The James Hutton Institute and a member of the Institute of Biological & Environmental Sciences, University of Aberdeen.

8.36 The review generally used the site-based input values cited in the applicant's carbon assessments from 2013 and 2014. Alternatively, guidance values supplied by SEPA to the developers were used, where these made logical sense. Areas of concern were raised,

including the omission of the emissions related to forestry felling. In the reviewers' opinion, as there were no plans to remove forestry on the application site in the absence of wind farm development, these should have been included, or, alternatively, the development should not be able to claim gains due to site improvement. A number of input parameters are recommended to be altered to more conservative values.

8.37 The review suggests that the overall emissions and payback time are significantly under-estimated. Calculations within the review suggest an expected payback time against fossil-fuel mix of energy generation of 7.3 years (4 to 16.1 minimum to maximum). These figures consider the felling of the full 1133 hectares of forestry at the application site. It is acknowledged that this new expected value is also not likely to be accurate, due to the lack of site-specific data given by the developers. The review also provides an expected ratio of carbon dioxide equivalent emissions to power generation of 206 grams per kilowatt hour (206g/kWh) with a potential maximum of 321g/kWh.

8.38 It is not a current requirement to consider alternative site scenarios. However, given the location of the application site bordering several peatland restoration areas, it is suggested that alternatives should have been considered. The review predicts that a significantly reduced net carbon emissions would be produced were the application site simply restored in the absence of the proposed development.

Input parameters

8.39 In relation to forestry felling, RSPB Scotland agrees that trees on the application site would likely be removed in the future and that compensatory planting is not likely to be required for the site as the forestry plantation was inappropriately planted on peatland habitat. However, this does not support the argument that carbon losses from forestry removal should be excluded from the carbon assessment. Scottish Government guidance clearly states that forest losses should be set to zero only if the forestry is planned to be removed with no further rotations "before the wind farm development". The carbon calculator assumes that the primary reason the trees are being removed is for nature conservation (in proximity to the Caithness and Sutherland Peatlands Special Protection Area and Special Area for Conservation) when clearly the cause proposed is for building a wind farm.

8.40 RSPB Scotland argues that if it is deemed appropriate to exclude forest carbon losses from the carbon assessment on the basis that the site would ultimately be restored anyway in the absence of the wind farm, the 'baseline' for the carbon assessment should then be that restoration would also take place as well as forestry removal. Therefore, the assessment should also exclude the carbon benefits of site restoration and be limited to considering the impacts of the wind farm infrastructure on peatland. The applicant's approach excludes the carbon impacts of forestry removal whilst claiming the benefits of site restoration, which do not logically go together. It is suggested highly likely that forestry felling would be followed by a programme of restoration.

8.41 The amount of forestry (24 hectares) selected by the applicant for tree loss is a significant under-estimate, as this is simply the total area occupied by the wind farm infrastructure and does not seem to apply any buffer area. The applicant's illustrative carbon payback figures continue to include limited carbon losses from felled forestry and the full benefits of restoration – "having it both ways". The carbon calculator guidance does not explicitly state that where forestry removal is excluded this means that restoration

benefits should also be excluded, this is clearly a result of oversight rather than design. It is further noted that the range submitted by SEPA on the basis of 0 to 1133 hectares of forestry felling (between 1.7 and 4.3 years) is based on a simplified carbon assessment method and not the detailed version (to be used by developers) which would be expected to give a significantly higher payback period. If this issue is not clearly resolved, resulting in a carbon impact assessment where the carbon dynamics of forestry removal and peatland restoration are either both clearly included or excluded, then we suggest that less weight should be attached to the carbon calculations submitted by the applicant.

8.42 In relation to drainage, it is argued that the most recent literature on drainage impacts mean that a 20 metre drainage extent (5 to 50 metre range), not 10 metre, should be adopted.

8.43 In relation to bog plant regeneration, it is noted that the calculator refers to the time required to return the site “to its previous state”, which the guidance describes as “full recovery of plant communities”. RSPB Scotland agrees that some recovery of peatland species and plant recovery may occur within the periods suggested by the applicant (expected 6 years, minimum 4 to maximum 8). However, full recovery would not occur within this timescale.

8.44 Whilst RSPB Scotland note that its commissioned review suggests that site-specific data, not generic data, should be used where available, it notes that the changes made by the review in relation to certain parameters (water depth for example) have very minor effects on the carbon payback period.

8.45 RSPB Scotland agrees that guidance for using the calculator does not currently require future average counterfactual emissions factors to be used. However, these emerging policy and practice areas may have a significant effect on how carbon calculations are undertaken for wind farms on peatlands.

8.46 RSPB Scotland maintains its position that, as supported by an independent review, the carbon payback period has been significantly under-estimated. The policy driver for wind farms is the need for decarbonisation of Scotland’s electricity supply towards a 2030 target of 50g carbon dioxide per kilowatt hour, which, based on the findings of the review, may be significantly exceeded by the proposed development. Given that there is significant alternative renewables capacity in the planning system, RSPB Scotland considers that our important renewables and climate change targets could be met more effectively through alternative projects to that proposed at Strathy South.

Mr Batten’s position

8.47 Mr Peter Batten is an individual objector. His position is supported by the John Muir Trust.

8.48 Mr Batten identifies that both the National Planning Framework 3 and Scottish Planning Policy note the significance of carbon rich soils, deep peat and priority peatland habitat as important resources for carbon storage. Therefore, the findings of the carbon map produced by Scottish Natural Heritage, which will identify such resources, should be taken into account. Mr Batten notes that the draft of the mapping shows the Strathy South application site within an area with potential for development (as an afforested area) but he

disagrees with the methodology suggesting that with potential for restoration the site should be considered as an area of carbon rich soils.

8.49 He identifies that the Scottish Government web-site identifies that “Scottish Ministers require all new applications received since June 2011 to use the Scottish Government’s published method for assessing carbon losses and savings. The Scottish Government will ask the Scottish Environment Protection Agency (SEPA) to validate whether the calculation by developers has been carried out robustly and to provide independent advice on the degree of confidence in the result which Ministers can take on board in determining the application”.

8.50 Any changes to the carbon calculator arising from errors found, or to take account of the ClimateXChange review being undertaken by Professor Waldron, should be taken into account.

8.51 Mr Batten notes that the Scottish Government’s carbon intensity target ratio of carbon dioxide equivalent emissions to power generation of 50 grams per kilowatt hour by 2030 is non-statutory. However, a carbon intensity above 50 g/kWh from an individual wind farm could harm the future achievement of the national target. He also notes that if using an interim version 2.9.2 of the carbon calculator (which amends some errors in the calculation of minimum and maximum carbon intensity) the carbon intensity in all cases is substantially increased.

8.52 He advises that changes to the water table and site improvement parameters would have little change to the carbon payback period. However, he suggests that doubling the drainage extent to 50 metres (following that used in the Glenmorrie Wind Farm assessment) would have a material change to the payback period.

8.53 He notes that in relation to counterfactual emission factors (those representing emissions from alternative electricity generation sources which would be used in the absence of the wind farm) that the applicants values are from generic sources. This may be accepted by SEPA but Mr Batten questions whether historical counterfactual factors should be used or an approach using predicted future emission factors (as asked in a questionnaire circulated by the Waldron review team). Because of general decarbonisation of electricity generation, adoption of this principle into Scottish Government policy would lead to much smaller counterfactual factors and longer payback periods. Substituting future predicted factors would lead to a large increase in the carbon payback period for Strathy South.

8.54 Following his own sensitivity analysis, Mr Batten suggests that if the maximum drainage extent were doubled, together with predicted counterfactual emission factors, then the maximum payback period for the proposed development would exceed 25 years. In effect, Mr Batten suggests that it is possible that the proposed wind farm may not repay the carbon losses resulting from its construction.

8.55 He is surprised by SEPA’s assertion that only the forested area required for the actual wind farm development should be included in the carbon assessment. It also appears strange that the applicant met with SEPA to discuss parameters but that no similar meeting was held between RSPB Scotland and SEPA to discuss its opposing approach to forestry felling and restoration.

8.56 It is argued that SEPA's response of confidence is incorrect as it refers only to the expected payback period and does not report on the maximum (or minimum) carbon payback. A similar validation for Glenmorie wind farm relied on the maximum carbon payback period. Therefore, it is an incomplete validation.

8.57 The applicant's illustrative figures are incomplete. Mr Batten's own assessment (which includes adjustments for drainage extent at 50 metres; forestry felling; and 41.2 metre turbine foundations) provides an expected payback time (fossil-fuel equivalent) of 2.8 years (or 9.7 years maximum). And, a carbon intensity of 78 g/kWh (maximum 182 g/kWh). Using future counterfactual emission factors would significantly increase these carbon intensity figures. There is a material case against the proposed development on carbon intensity grounds.

Reporter's findings

8.58 I note that the requirement to produce a carbon assessment was introduced in 2011 for all new applications. It is therefore not necessarily applicable to those already in the system (such as the proposed development). Nevertheless, the carbon losses and savings from development is a material consideration in the decision-making process; and the applicant has produced carbon calculations for the modified 47 wind turbine scheme, and the current 39 wind turbine scheme. In addition, it has produced a useful illustration of the expected carbon payback time, and carbon intensity, if changes suggested by SEPA were incorporated. The principal dispute is to what extent carbon losses from forestry felling, and carbon benefits from restoration, should be accounted for. I return to this below.

8.59 I agree with Mr Batten (as stated in national policy) that carbon rich soils are an important resource for carbon storage. The emergence of Scottish Natural Heritage's carbon mapping will be informative in identifying such resources when preparing spatial frameworks and determining suitable locations for future wind turbine development. However, the carbon mapping is not yet finalised. In any event, as identified by Mr Batten, the application site is forested and consequently would not fall within the definition of a carbon rich soils area (albeit that it has potential through restoration to regain carbon rich soils). I consider that the carbon mapping should be given limited weight in this decision.

8.60 The carbon calculator is a tool to aid decision-making. The input parameters are agreed at a national level with SEPA acting as an independent validator (when requested) on whether the parameters selected are appropriate and reasonable. The detailed complexity of the alternative scenarios provided by Mr Batten, and to some extent RSPB Scotland, are useful in so much as they illustrate that even subtle changes to input parameters can have profound changes in the carbon payback periods. However, they can also create undue complexity in a process which is intended to provide a series of result to gauge the carbon impact of a development and allow for comparison. Therefore, I agree with the applicant that it is inappropriate for third parties to suggest modifications to the carbon calculator; use interim versions of the calculator; or predict what parameters may change in the future, and show figures based on these changes. However, it is fair to query the input parameters selected for the carbon calculator version used where the evidence base is unsupported and there are reasonable alternatives.

8.61 The majority of the application site is within 800 metres of the edge of the Caithness and Sutherland Special Protection Area. It is clear from the Forestry Commission Scotland letter and enclosed guidance on forest plans in proximity to protected areas, in line with the

Scottish Government's woodland policy, that post 2011 (when the letter was issued) there would be no re-stocking of forestry at the application site once it was felled. A plan was therefore in place before the carbon assessments were undertaken for the proposed development. Construction of the wind farm may speed up the necessity to remove trees from the site but ultimately the forestry would have been removed nevertheless. Therefore, I agree forestry felling (and the carbon losses associated) should not be attributed to the proposed wind farm. I note that the applicant's illustrative carbon figures provide for 24 hectares of forestry felling which includes all the land required for infrastructure and more (being based on the 47 and not the 39 wind turbine scheme). Therefore, the illustrative figures include a cautious approach.

8.62 I understand the proposition from RSPB Scotland that it would be unreasonable to allow the carbon losses of forestry felling to be excluded from the calculation but allow the carbon benefits of restoration (site improvement) to be included. On the surface this argument appears to hold true. However, on reflection, I consider that there was no active plan to restore the application site in the absence of the wind farm which would provide the means to conduct peatland restoration of the site. The hearing session on peat explored this matter where, although envisaged and supported by objecting parties, there was no expressed action plan or directed financial assistance to restore the peat on the application site. The proposed development would provide restoration. I have found above that carbon losses from forestry felling should not be included. Consequently, I consider it appropriate to include the carbon benefits of restoration in the carbon calculation. I note that SEPA also hold this view (see paragraph 8.30).

8.63 In relation to other input parameters, it is not unusual for the actual model of the wind turbine to be installed not to be known from the outset as models change over time and are therefore ordered close to the commencement of development. It is therefore reasonable to use a generic capacity factor in the carbon calculation.

8.64 Mr Batten highlights issues with the counterfactual emission factors and a desire to use predicted factors rather than rely on historic data. Opinion on this input parameter has been sought through the review by Professor Waldron's team. However, I am unaware of any official proposed changes to the carbon calculator arising from this review as yet. The current guidance with respect to counterfactual emission factors has been followed and is agreeable to SEPA. Therefore, I agree that the inputs used are reasonable.

8.65 I agree with SEPA's conclusions that the applicant has provided sufficient justification to support the outstanding input parameters in dispute, including drainage extent; cut track; peat depth; turbine foundation extent; site improvement and bog plant regeneration; and water table data. I note from the applicant's illustrative figures that amending these inputs as suggested makes little difference to the expected carbon payback period (1.1 to 1.2 years) and expected carbon intensity (32 g/kWh to 34 g/kWh) over the 2014 further information report calculations.

8.66 At present the carbon intensity figure is provided in the carbon assessment for information; and the national target of 50 g/kWh is not applicable to individual applications. Indeed, there is no published threshold set of what might be acceptable at a local level. Mr Batten and RSPB Scotland point out potential maximum carbon intensity figures. However, with respect to the application at Strathy South before Scottish Ministers, I consider that any carbon intensity calculation is of illustrative value only.

8.67 There is a substantial difference between the applicant's fossil-fuel equivalent and that proposed by RSPB Scotland and Mr Batten for the carbon payback period. However, together with SEPA, I am satisfied that there is sufficient justification to support the input parameters used by the applicant in the 2014 calculation which show a 1.1 year carbon payback period (minimum -0.5; maximum 4.6). The illustrative figures using more conservative inputs (particularly increasing the drainage extent and peat extraction for foundations) only increase the expected payback period to 1.2 years (minimum -0.6; maximum 9.7). SEPA is right to highlight the increase in the potential range of the maximum payback time doubling in the illustration from 5.1 to 10.2 years. However, I again agree with SEPA that this reflects a precautionary approach.

8.68 The expected carbon payback period of the proposed development would be well within the average consented by Scottish Ministers in the past.

Summary of findings

8.69 The applicant has provided sufficient justification to support its carbon assessment for the proposed development. Scottish Ministers can have confidence in using the figure of 1.1 years expected carbon payback period as a material consideration in their decision-making.

CHAPTER 9: ECONOMIC BENEFITS / DIS-BENEFITS

Evidence on economic impacts and benefits

9.1 Key evidence relating to this topic includes:

- Hearing statements on the topic from the applicant⁴⁴⁴; Mr Lee (on behalf of Melness and Tongue Community Development Trust)⁴⁴⁵; Mr Jim Johnson (on behalf of Bettyhill, Strathnaver and Altnaharra Community Council and others in support)⁴⁴⁶; Ms Alexandra Patience (a local resident opposed to the application)⁴⁴⁷; the John Muir Trust⁴⁴⁸; and Wildland Limited Northern Estates⁴⁴⁹.
- Discussions during a hearing session held on economic matters⁴⁵⁰.

Scope of evidence

9.2 The hearing session on economic benefits/dis-benefits included discussion on the current situation with regard to tourism and visitors; recreation; outward migration; local businesses and employment; and local estates. The discussion then addressed the impact on those areas; the investment proposals from Wildland Limited Northern Estates; a community growth plan; and an income share agreement for local communities.

9.3 Further to the hearing statements, representations (see paragraph 1.18) expressed the following comments. Those opposed submitted that:

- Only short-term contracts would arise from the development with little long-term employment for locals.
- There would be a loss of income from climbers, walkers, anglers, hunters, and tourists as a consequence of people being put-off by the development.

Those in favour submitted that:

- The proposal would provide secure employment to local people.
- Support would be given to local shops and services from those employed in construction and maintenance of the wind farm.
- The proposed community package would provide social and economic benefits.
- The existing commercial forestry is a private enterprise which has no community benefit.
- The proposal would help to retain people, especially the younger generation, due to employment and support for local shops and facilities.
- The local supply chain would be supported through employment and contracts.

⁴⁴⁴ [SSE Generation Limited Hearing Statement on economics.](#)

⁴⁴⁵ [Melness and Tongue Community Development Trust Hearing Statement on economics.](#)

⁴⁴⁶ [Jim Johnson Hearing Statement on economics.](#)

⁴⁴⁷ [Alexandra Patience Hearing Statement on economics.](#)

⁴⁴⁸ [John Muir Trust Hearing Statement on economics.](#)

⁴⁴⁹ [Wildland Limited Northern Estates Hearing Statement on economics.](#)

⁴⁵⁰ [Economic benefits/dis-benefits hearing session agenda and participants.](#)

The current situation

Attributes

9.4 Parties generally agreed that visitors contribute to the local economy by using services and facilities. It was agreed that the following attributes attract people to the area:

- A variety of landscapes and seascapes.
- Access to beaches (some suitable for surfing).
- Remoteness, openness and isolation (“getting away from it all”).
- Opportunities for shooting, fishing and other outdoor sporting activities.
- Bird watching and peatland interpretation (including at the RSPB Forsinard centre).
- Tourist, walking and cycling routes (including the Strathnaver Trail but particularly the route between Durness and Wick along the A836).
- Small “living” communities.
- Archaeology and history (including Highland clearance villages).

9.5 However, Mr Johnson and Ms Campbell (a local landowner and farmer) suggested that it was rare to see anyone on the peatlands or the surrounding landscape. Instead, it was suggested that the majority of people visit for a short period travelling the main roads.

Comparative study, local employment, and estates

9.6 The applicant highlighted current experience at the Strathy North Wind Farm site⁴⁵¹ where contractors were providing a valuable contribution to the local economy by using local services and facilities, and through “business tourism” – where families and friends of contractors visit the area as a consequence of someone working there.

9.7 The applicant noted that the Strathy North Wind Farm (containing 33 wind turbines and developed by SSE Renewables) is expected to generate £109 million in capital expenditure. Contracts awarded during the civil works stage supported 37 jobs (10 new positions of which 6 were permanent) with RJ Mcleod all based in Caithness and Sutherland. Contracts were also given to local businesses in Thurso, Bettyhill and Melvich. The enabling and construction works at Strathy North Wind Farm have resulted in around 20% of the capital expenditure being given to Highland companies and provided new employment, including permanent jobs (equivalent to 278 job years).

9.8 Mr Johnson and Mr Lee suggested that, due to the low population of the area, any job created and supported in the area was highly significant. Evidence of this is presented in appendix 1 of Mr Johnson’s hearing statement which lists around 35 contractors, sub-contractors, and accommodation providers who have benefited from the Strathy North Wind Farm development.

9.9 Wildland Limited Northern Estates noted that local estates can employ up to two permanent keepers and more staff during the shooting season. Resident and temporary house-keepers are also employed. Major investment is proposed for the Ben Loyal, Kinloch and Melness Estates in the near future to the sum of around £100 million. Plans include the upgrade of estate lodges and cottages, a new boathouse and ancillary hubs. Some 50

⁴⁵¹ [Socio-economic impact assessment of Strathy South Wind Farm \(BiGGAR Economics\), chapter 6. \[SSE_13.3\]](#)

to 100 planning applications are to be submitted with work anticipated to be completed in the next 10 years. The key to this investment is the philosophical view of the landowner (Danish entrepreneur Anders Poulson) to maintain and value wild land with the creation of a Highland tourism resort. Around 100 paying guests are anticipated with a staff ratio of 2:1 providing significant local employment.

Migration

9.10 Mr Johnson, a former teacher in the area, noted the falling population of Caithness and Sutherland highlighting the trend towards an ageing population which was exacerbated by younger people leaving for work and opportunities elsewhere. Mr Johnson considered that there was a “lack of economic opportunity” for those living in the area. In support of his view he pointed to falling pupil numbers in local schools; and the need for pupils to travel between schools to obtain tuition in certain subjects.

9.11 This view was balanced by the John Muir Trust (the witness, Mr Low, being a former high school teacher also) suggesting that this trend was not unique to Caithness and Sutherland. While this was accepted by Mr Johnson he noted that the effects were more pronounced in the smaller, and sometimes isolated, communities in the Highlands.

Anticipated impact of the proposed development

9.12 Those opposed to the proposal suggested that its development would degrade the attributes which currently attract people to the area. In particular, the visual impact on the landscape would be unacceptable; the qualities of wild land would be diluted; and the atmosphere (isolation, openness and remoteness) of the area would be diminished.

9.13 In support of the above view, the John Muir Trust noted the findings of YouGov polls from 2012 and 2013⁴⁵² which investigated attitudes to the construction of wind turbines on wild land. The key findings indicated that 40% wanted governments to prioritise protecting scenic wild land over wind farms; and that 43% would be less likely to visit a scenic area with a large concentration of turbines (with only 2% more likely to visit). The Trust would caution against anything which is likely to change the area's credentials as a tourist destination, such as the proposed development.

9.14 The Trust also pointed out that the contributions offered were not yet legally binding on the applicant (so could be modified); and, in any case, should not (as is standard practice) be considered as material to the determination of the application.

9.15 Ms Patience noted that contractors would reduce the availability of accommodation available to those visiting the area. The witness also suggested that job creation could also be created in the absence of the proposed wind farm by concentrating and expanding upon the existing attributes of the area, including boosting eco-tourism; research; and art projects (associated with wilderness and the natural landscape).

9.16 Wildland Limited Northern Estates consider that the cumulative impact of proposed wind farms in the area could reduce the scale of investment from the estate landowner. Consequently, as many as between 50 and 100 jobs could be “at risk”.

⁴⁵² [YouGov surveys from 2012 and 2013 for the John Muir Trust](#). [JMT/H/6]

9.17 The applicant submitted that, as with the example of Strathy North Wind Farm, there would be substantial benefits arising from the proposal, including:

- The creation of 898 job years, and £100 million gross value added (GVA), for Scotland during the development and construction phase.
- Creation of 317 job years, and £45.6 million GVA, for Highland.
- Support of 28 full time jobs (equivalents) over the 25 year lifespan of the proposal and an annual GVA impact of £3.6 million in Highland.
- Support of 56 jobs and £6.7 million GVA annually in Scotland over the operational lifespan of the proposal.
- A contribution of £633,000 per year to local community projects and regional sustainable development projects (split 50/50).
- A contribution to Melness and Tongue Community Development Trust through an income share agreement.
- Employment of local contractors equating to some 20% of the capital expenditure.
- Use of local accommodation, services, facilities and further business tourism.

9.18 The applicant's witness at the hearing, Mr Blackett, also suggested that there was no evidence of any impact on the tourist sector from wind farms⁴⁵³. Tourism trends were typically drawn from other factors including the cost of fuel, affluence, and deals abroad. The public attitude towards wind farm policy was, in fact, positive with a Department for Energy and Climate Change (DECC) survey identifying 78% in support⁴⁵⁴. The applicant also pointed to a recent YouGov survey conducted on behalf of Scottish Renewables which suggested that 62% of Scots were generally in support of large-scale wind projects in their local council area (compared with 24% for shale gas and 32% for nuclear)⁴⁵⁵. Local support for the proposal was highlighted in the media⁴⁵⁶⁴⁵⁷ and in the participation of locals at the inquiry.

9.19 The applicant has signed a memorandum of understanding with Melness and Tongue Community Development Trust agreeing to offer up to 10% of the development for community investment and subsequent share in revenue for the lifetime of the project. This would enable the Trust to have a continuous revenue stream for the duration of operation giving some several thousand pounds per year. This scheme would also make a significant contribution to the Scottish Government target of 500 MW of community owned renewables by 2020. The precedent from Strathy North Wind Farm demonstrates that the applicant is committed to providing the benefits promised. However, the applicant agreed that the monetary value is not a material consideration in the determination of the application.

9.20 Mr Lee's hearing statement indicates that the income share agreement would generate some £12 million over the 25 year operational period. The funds would be invested in projects identified in a community growth plan maintained and updated by locals (a copy of the community growth plan can be viewed in appendix 1 of the hearing statement). Mr Lee believes that investment of the funds could result in higher economic benefits to the ratio of 1:1.41 so that up to £17 million could be realised. Furthermore, the investment would allow between six and 15 full-time jobs to be created; with a further 40 jobs possibly created indirectly.

⁴⁵³ See footnote 58 reference plus [Wind Farms and Tourism Trends Scotland, 2013](#). [SSE_13.4]

⁴⁵⁴ [DECC Public Attitudes Tracker – Wave 11, November 2014](#). [SSE_13.5]

⁴⁵⁵ [YouGov survey for Scottish Renewables, 2015](#). [SSE_13.14]

⁴⁵⁶ [BBC News website article dated 3 February 2015](#). [SSE_13.1]

⁴⁵⁷ [Scottish Farmer article dated 5 March 2015](#). [SSE_13.13]

9.21 In its hearing statement, the applicant agreed that sporting estates make an important contribution to tourism in Highland but suggested that the key driver for those pursuing country sports is the quality of the sport available. In the hearing the applicant's witness also considered that the proposed wind farm would not conflict with future eco-tourism or the wilderness qualities in the area. Mr Johnson also argued in discussions that the area did not require investment in estate lodges and cottages but investment in the local community.

9.22 A key argument for those in support of the proposal was the potential for job creation and skill retention; support for local businesses, services and facilities; and significant contributions to community projects. The proposal would hopefully assist in retaining people and families in the area.

Reporter's findings

9.23 Financial contributions are not material to the consideration of applications for energy consents or planning permission. Therefore, the annual contributions towards local community projects and the regional sustainable development projects should be discounted when determining the acceptability of the proposal. However, other social and economic benefits or dis-benefits are material to the outcome.

9.24 It is difficult to predict the full extent of the proposal's potential economic impact on the area. However, the opinions and analysis provided to inform this inquiry are based on previous experiences, surveys, comparison, and research. Of particular note are the experiences from the development of the Strathy North Wind Farm, which is comparable in terms of scale, location and developer. Having reviewed the evidence I am confident that the proposal would provide the following economic benefits:

- Job creation in Scotland and the Highlands.
- Skills and knowledge retention.
- A significant GVA contribution at a national and regional level.
- Support to local accommodation, services and facilities.

9.25 There is no guarantee that contracts would be awarded to local or national firms. However, the evidence from Strathy North Wind Farm indicates that at least 20% of capital expenditure would be invested in the area.

9.26 Similarly, there is no way to ensure that those employed would be from the local area, or support a younger population. However, the comparative evidence suggests that local firms would be contracted with subsequent sub-contraction to other local firms. Development would therefore provide some support and opportunities for the local population which could help stem population decline.

9.27 From the evidence presented there are clearly mixed views on the location of wind turbines and whether their presence would likely discourage visits and activity in the application area. My findings in chapters 3 (landscape and visual impact) and 4 (wild land) suggest that the proposal is likely to have no significant impact when viewed from attractions, viewpoints or tourist routes. Following my site inspections to the application site and surroundings, I also consider that any proposals to promote eco-tourism and further art projects in the area could proceed with very little hindrance from the proposed

development. I consider that the siting of the wind turbines would have little impact on the attractiveness and attributes of the area. I don't consider that the majority of those visiting would be put-off by the presence of this proposal, or when considered with others.

9.28 The Ben Loyal, Kinloch and Melness Estates investment plans are still at an early stage in the consenting process. However, the level of investment and job creation envisaged would be significant and beneficial to the economy. Again, following my findings in chapters 3 and 4, I consider that there would be very little impact on this venture arising from the proposed development, particularly from areas of wild land associated with the vision proposed for the Highland resort. In my view there would be no major conflict between the two proposals. Indeed both could greatly contribute to the Highland area.

9.29 The income share agreement would allow the Melness and Tongue Community Development Trust to gain ownership of part of the proposed development. This would secure long-term financial stability to the Trust and enable investment in community projects and provide some further employment. This aspect of the proposed development is consistent with the Scottish Government's target to increase community ownership of renewables; and provide social and economic benefits to the community.

Summary of findings

9.30 Overall, I find that the proposed development would provide a significant economic investment in the local area, Highland and Scotland. It would support local contractors; provide job opportunities; and support local services, facilities and accommodation providers. In doing so, there would be opportunities to aid in population retention.

CHAPTER 10: OTHER RELEVANT ISSUES

10.1 This chapter provides findings on other relevant issues which were not subject to oral sessions, and limited written submissions. Other than the issue of an alternative access route, parties agreed at the pre-examination meeting that the issues considered in this chapter could be assessed based on the submitted written material. Unlike other chapters, my findings are presented in each sub-issue rather than at the end of the chapter.

Civil and military aviation

10.2 The Civil Aviation Authority recommends, should development be consented, that the applicant inform the Defence Geographic Centre of the locations, heights and lighting status of the turbines and meteorological masts and dates of construction to allow aviation charts to be updated⁴⁵⁸. I note that condition 10 would require this of the applicant.

10.3 NATS (En Route) Public Limited Company has confirmed no safeguarding objection to the proposal⁴⁵⁹.

10.4 The Defence Infrastructure Organisation (MOD) objected to the past proposal for 47 wind turbines due to obstruction of one of two corridors where pilots can practice flying in low cloud and using terrain following radar. Subsequently, the MOD has confirmed that the reduction to the current 39 wind turbine proposal has removed its concerns. The MOD no longer objects to the proposed development. However, in the interests of air safety it is requested that the development be fitted with aviation safety lighting; and that the MOD be informed of the position of each turbine and construction dates. Again, condition 10 would require this of the applicant.

10.5 In relation to air safety I find the proposed development to be acceptable.

Recreational access

10.6 Scotways commends the applicant's suggested use of an outdoor access management plan. However, the organisation objects to the proposed turbines being located in close proximity to Hill Track 344 promoted for recreational uses, and the length of time the route would be closed during works⁴⁶⁰. Paragraph 3.26 provides a description of Hill Track 344. I considered the visual impact to users on the track in paragraph 3.68 as acceptable. Condition 15 would ensure the production and implementation of an outdoor access plan, which would provide for alternative temporary routing (if necessary) during construction activity for Hill Track 344. I find that the impact on recreational access would not be significant.

Vehicle access

10.7 In response to a local landowner a procedure notice sought to determine the chosen access route to the proposed development (as two options were presented in the ES addendum). A single route was selected as part of the 2014 FIR (as outlined in section 4.3) which would share access with the proposed Strathy Wood Wind Farm proposal. This

⁴⁵⁸ Civil Aviation Authority response dated 12 September 2012.

⁴⁵⁹ NERL Safeguarding Office response dated 18 November 2014.

⁴⁶⁰ Scotways response dated 6 March 2014.

route only requires a single river crossing over the River Strathy. The use of a shared access and single River Strathy crossing would reduce the infrastructure impact of the proposal; which, in any case, is acceptable.

10.8 Transport Scotland confirms that there would be no significant environmental impacts (including noise and air quality) associated with additional traffic on the trunk road network. The body is satisfied with the environmental statement and has no objection to the proposed development subject to conditions on abnormal routes and turbine delivery.

10.9 I note that the 2013 ES addendum (chapter 15) identifies no major impact on the local or trunk road network. Operational traffic would have a minimal impact. A moderate significant impact related to congestion is identified on only one route (Reay/Isauld) as a result of increased heavy good vehicle movements. This predicted impact would be reduced following the reduction to 39 proposed turbines from the 47 scheme assessed in 2013. Conditions on abnormal routes, turbine delivery, traffic impact update, and the main access route would be attached to the consent. I find that the proposed development would have an acceptable impact on the road network.

Noise

10.10 Predicted noise levels from the proposed development alone would be below 30 dB LA90 at all nearby residential properties, and therefore no significant operational noise effects are anticipated. Cumulative noise levels with Strathy North Wind Farm and Strathy Wood Wind Farm are only predicted above 35 dB LA90 at Braerathy Lodge and Dallangwell; however, the Strathy South proposal adds insignificantly (0.3 dB) to the consented Strathy North noise levels at Braerathy Lodge, and Dallangwell is owned by the applicant⁴⁶¹. Condition 26 would safeguard the amenity of any occupants of Braerathy Lodge, and the ownership of Dallangwell allows a higher decibel threshold to be accepted. I therefore find that the noise impact would be acceptable.

Public water supply

10.11 Scottish Water confirms that the application site is not within a Drinking Water Protected Area and should not pose a risk to the public water supply⁴⁶². The impact on public water supply would therefore be acceptable.

Safety

10.12 The John Muir Trust and Wildland Limited Northern Estates raised concerns about safety in their respective hearing statements on policy⁴⁶³. I note that the Health and Safety Executive provided no comments of concern in relation to the health and safety of people working on, or at, the application site⁴⁶⁴. In my experience, turbines are manufactured, constructed and maintained to high industry standards. Consequently, the risk of failing infrastructure would be minimal. In addition, the application site is relatively remote with infrequent recreational use. Therefore, I consider that the risk to human safety would be very low; and therefore acceptable.

⁴⁶¹ FIR (2014) section 5.5. [CD_5.1]

⁴⁶² Scottish Water response dated 14 October 2014.

⁴⁶³ JMT and WLNE policy hearing statements.

⁴⁶⁴ HSE response dated 5 July 2007.

Telecommunications

10.13 The Joint Radio Company Limited consultation response to the 2014 FIR confirms that the proposed development would have no impact on utility company radio links⁴⁶⁵. The UK water industry also (in relation to UHF radio scanning telemetry communications)⁴⁶⁶, BT⁴⁶⁷ and OFCOM⁴⁶⁸ also have no objection to the proposal. I find that the proposed development would cause no detriment to telecommunications infrastructure.

Cultural heritage

10.14 Historic Scotland confirms no objection to the proposed development; and that in relation to scheduled Ben Griam fort that “we are content that the level of impact remains not significant.”⁴⁶⁹ The Highland Council also confirms no objection in relation to cultural heritage issues⁴⁷⁰. No objections in relation to cultural heritage matters were received by any other consultee or party.

10.15 I agree with the findings of the environmental statement, addendum and further information report that the proposed development would have no significant direct impact on any listed building, scheduled monument, garden or designed landscape, or archaeological site. Furthermore, the setting of cultural heritage assets in the area would not be harmed as a consequence of the proposed 39 wind turbines. Having climbed to the summit of Ben Griam Beg and appreciated the views it commands, I am also of the opinion that although the proposed turbines would be visible in views to the north (together with Strathy North and Strathy Wood, if the latter is consented) the setting of the scheduled fort (Ben Griam Beg Hill Fort) would be safeguarded. In reaching this conclusion, I have noted that the proposed turbines would only occupy a small part of the commanding views from the site.

10.16 I find that the proposal would not harm cultural heritage interests directly or indirectly. The applicant has provided satisfactory prevention of harm to cultural heritage assets and mitigation where appropriate. There would be no harm to listed buildings or their settings.

Summary of findings

10.17 I find that the proposed development would be acceptable in relation to air safety; noise; public and vehicle access; human safety; public water supply; telecommunications and cultural heritage impacts.

⁴⁶⁵ Joint Radio Company Limited response dated 24 November 2014.

⁴⁶⁶ Atkins Global response for UK Water Industry dated 4 October 2012.

⁴⁶⁷ BT response dated 16 August 2013.

⁴⁶⁸ OFCOM response dated 3 October 2012 (also 5 December 2007).

⁴⁶⁹ Historic Scotland correspondence dated 8 December 2014.

⁴⁷⁰ Planning Committee Report, paragraphs 8.44-8.45. [CD_6.1]

CHAPTER 11: PROPOSED CONDITIONS AND LEGAL AGREEMENTS

Evidence relating to conditions and legal agreements

11.1 Key evidence relating to this topic includes:

- Suggested conditions mainly agreed by parties.
- Hearing statements on the topic from the applicant⁴⁷¹; the Highland Council⁴⁷²; and SNH⁴⁷³.
- Discussions during oral sessions when conditions were considered.
- Written submissions in response to procedure notices⁴⁷⁴ from the applicant⁴⁷⁵; RSPB Scotland⁴⁷⁶; SNH⁴⁷⁷; SEPA⁴⁷⁸; the Highland Council⁴⁷⁹.

Scope of evidence

11.2 At the pre-examination meeting⁴⁸⁰ it was settled that a hearing session⁴⁸¹ would be held on conditions and any legal agreements to be imposed should consent be granted. The Highland Council also agreed to co-ordinate a list of draft conditions (and any heads of terms for legal agreements) in consultation with other parties.

11.3 Conditions related to peat and ornithology were discussed during the oral sessions on those matters. SEPA were also invited to make written responses on the draft conditions. Consequently, in addition to the applicant, the council and SNH, and RSPB Scotland, SEPA were also engaged in the discourse on conditions and legal agreements.

11.4 In the period following the hearing session on conditions and the inquiry session on ornithology, during which written submissions on conditions were exchanged, it appeared that a further hearing session on conditions would be required. However, it was agreed that parties could respond in writing to the final draft of the conditions. A final version was produced in June 2015 and was subject to a concluding round of written submissions for comment.

The applicant's position

11.5 In the main, the applicant agrees with the drafted conditions provided by the Highland Council in June 2015 (version 7B). The applicant's final written response sent 2 July 2015 (annotated as 13 June 2015) provides track changes indicating where there is a difference of opinion.

⁴⁷¹ [Applicant's hearing statement dated 23 March 2015.](#)

⁴⁷² [The Highland Council's hearing statement dated 1 April 2015.](#)

⁴⁷³ [SNH hearing statement dated 1 April 2015.](#)

⁴⁷⁴ Procedure notices dated [7 May 2015](#) and [26 June 2015](#).

⁴⁷⁵ Applicant's responses dated [5 June 2015](#) and [14 July 2015](#).

⁴⁷⁶ RSPB Scotland responses dated [1 May 2015](#); [7 June 2015](#) and [2 July 2015](#).

⁴⁷⁷ SNH responses dated [1 May 2015](#) and [16 July 2015](#).

⁴⁷⁸ SEPA responses dated [29 April 2015](#) and [12 June 2015](#).

⁴⁷⁹ [Confirmation from the Highland Council that final conditions version meets its position dated 17 June 2015.](#)

⁴⁸⁰ [Note of pre-examination meeting \(procedure notice 1\).](#)

⁴⁸¹ [Hearing agenda for conditions and legal agreement session.](#)

11.6 The applicant proposes subtle changes to the introductory section to aid the understanding; and minor changes to improve clarity. The applicant considers that the inclusion of RSPB Scotland as a consultee on matters involving decommissioning and restoration (condition 3); erection of buildings and other facilities (condition 8); micro-siting (condition 17); the construction and environmental management document (condition 18); the Ecological Clerk of Works (condition 19); species surveys (condition 20); and the habitat management plan (condition 23) is inappropriate and unnecessary.

11.7 The applicant considers that targeted sward management could be conducted to reduce the application site's attractiveness to breeding hen harriers and to allow successful peatland restoration. Sward management would only reduce the ability of a small proportion of the overall site to accomplish blanket bog restoration (some 2%)⁴⁸². The use of targeted sward management is already being used at Strathy North Wind Farm.

The Highland Council's position

11.8 The council took the lead role in compiling the draft conditions. The final version submitted in June 2015 (version 7B) includes all of its requirements in relation to conditions.

11.9 While unusual the council has no issue with RSPB Scotland being named as a consultee on matters arising out of the ornithology and habitat management plan related conditions. However, the council remains to be persuaded that this would be appropriate in relation to other conditions, for example those concerning the construction environment management plan and peat.

SNH's position

11.10 In its hearing statement SNH raised concerns about the deletion of many conditions and the consequential impact on the Caithness and Sutherland Peatlands SAC. The reintroduction of these conditions in later (and the final) versions allayed these concerns.

11.11 Further concerns about the wording of the condition about habitat management were expressed in written submissions. SNH suggested re-wording to ensure minimal collision risk with bird species associated with the Caithness and Sutherland Peatlands SPA. Revised wording to the deer management condition was also suggested to ensure an avoidance of increased deer population in the Caithness and Sutherland Peatlands SAC. Again, these changes were made to the satisfaction of SNH.

11.12 SNH confirms that it has no objection to RSPB Scotland being mentioned in conditions. It supports the view of RSPB Scotland in relation to revised micro-siting conditions (see below). However, SNH does not endorse the view of RSPB Scotland that targeted sward height management should be deleted from the habitat management condition. SNH would object to the proposed development without sward height management to reduce the application site's attractiveness to hen harriers (a qualifying interest of the Caithness and Sutherland Peatlands SPA). Reference to sward height management should be retained.

⁴⁸² Applicant's [closing submission](#), paragraphs 9.61 to 9.72.

SEPA's position

11.13 SEPA requested changes to conditions concerning decommissioning and restoration; the water management plan; the woodland plan; and borrow pits. All the requested changes have been made in accordance with the request. SEPA is therefore satisfied with the conditions as presented in version 7B.

RSPB Scotland's position

11.14 Various minor amendments to improve clarity are suggested by RSPB Scotland to version 7B of the draft conditions.

11.15 RSPB Scotland explains that consultation with it is regularly, if not usually, incorporated into conditions associated with section 36, and other, consents. Middle Muir Wind Farm is cited as an example. It is considered that the expertise of RSPB Scotland means that it could provide useful, informed input into discharge of conditions. This gives sufficient reasoning for the Planning Authority to consult with RSPB Scotland on certain matters.

11.16 The archaeology condition fails to account for the significant site specific ground conditions and potential to add to the knowledge of past events as recorded in the peat profile. RSPB Scotland recommends inclusion of the underlined clause "No development shall commence until a programme of work for the evaluation of the palaeo-environmental record of deep peat sequence to be affected... shall be submitted to and agreed in writing by the Planning Authority."

11.17 In relation to restoration, RSPB Scotland has serious concerns that, without a cast-iron guarantee that adequate funding would be available under all circumstances, a similar situation may arise as happened recently with open-cast coal sites in East Ayrshire. It is recommended that funds are held in an ESCROW account or with the council, rather than held by the applicant.

11.18 In terms of micrositing, a further clause should be inserted to ensure that any new location does not cause additional harm than that previously assessed.

11.19 It may be difficult to determine whether a bird corpse found on (or near) a wind farm site is the result of collision. On such a large site, some birds will die of other causes irrespective of any development. The suggested wording ("known or suspected as having been occasioned by collision") offers a pragmatic solution with a suitably precautionary approach, which could be refined by the habitat management plan steering group.

11.20 RSPB Scotland does not accept that targeted sward management to reduce the site attractiveness to hen harrier is appropriate. Instead, the aim should be, as far as possible, restoration of habitats to a condition found before drainage, ploughing and tree-planting. Reference to sward height management should be deleted.

11.21 In relation to the formation of a habitat management plan steering group, it should be specified when this group is to be formed and how it is to function. Therefore, condition 23.3 should be revised to require the group to be formed no later than three months prior to the commencement of any development. And, that the group should meet annually with the use of correspondence between.

Reporter's findings

11.22 My findings have been informed by the various discussions and written exchanges on the conditions, and any legal agreements, to be imposed should consent be granted. Although not directly related to section 36 cases, to aid my consideration I have taken into account the six tests presented in Scottish Government Circular 4/1998 on the use of conditions in planning permissions. Using the circular in this manner is normal practice. The six tests are: (1) the need for the condition; (2) relevance to planning; (3) relevance to the development to be permitted; (4) ability to enforce; (5) precision; and (6) reasonableness.

11.23 One of the key disputes relates to the naming of RSPB Scotland as a body for the council to consult before discharging conditions; as well as RSPB Scotland being named on the habitat management plan steering group. There is precedent for RSPB Scotland being named as a consultee in habitat management plan conditions in the Middle Muir Wind Farm consent. However, in that case the RSPB Scotland were not an objector. I appreciate that RSPB Scotland has specialist knowledge in ornithology, peatland restoration and habitat management, particularly with its experiences at RSPB Forsinard. However, statutory bodies (SNH and SEPA), which also have specialist expertise, are explicitly mentioned in the conditions to be consulted by the council before the conditions are discharged. Ultimately, it would be for the Highland Council acting as planning authority to discharge the conditions on the basis of the information it receives from the developer and any consultations it conducts. I find that in this case the introduction of RSPB Scotland as an additional named consultee would not necessarily benefit the effective discharge of conditions. However, not being named explicitly would not restrict the planning authority from seeking the views of any specialist body when determining whether to discharge a condition. Therefore, RSPB Scotland could still fulfil a role should the planning authority seek its views.

11.24 A further point of dispute was directed at the use of targeted sward height management. It is clear that the absence of sward height management would invoke an objection from SNH in relation to the potential harm to breeding hen harrier (a qualifying interest of the Caithness and Sutherland Peatlands SPA). If left unmanaged the site could become more attractive to this species. Hen harrier would, therefore, be susceptible to potential collision or disturbance. On the other hand, the use of targeted sward height management would impact on the ability of those areas managed to return to active blanket bog. Therefore, there could be a conflict between the beneficial restoration of the application site and the need to discourage breeding hen harrier from using it. However, having considered the limited area of ground that would be affected by targeted sward height management, and considered what would happen through the habitat management plan, I find that the use of sward height management would be appropriate. The overall restoration benefits would still be considerable. Consequently, I find that reference to targeted sward height management in the conditions should remain.

11.25 In relation to the financial guarantee, I consider that the proposed condition would be sufficient to enable the planning authority to control the finances of any restoration fund if required. Reference to ESCROW accounts is, therefore, not required.

11.26 Similarly, I find that the wording of the archaeology condition is sufficient to encompass the recording of information contained within the peat sequence without further amendment.

11.27 During the hearing session I questioned the use of conditions to require legal agreements to be entered into. Condition 4 (financial guarantee) and condition 14 (transport impact assessment) mention the use of agreements through the Local Government (Scotland) Act 1973 and the Roads (Scotland) Act 1984. However, both the council and the applicant were satisfied that the use of suspensive conditions in these cases would be effective; as well as being efficient in speeding up the consenting process (avoiding delay from processing agreements before consent would be issued).

11.28 I have made minor changes to the final version of the draft conditions as proposed by RSPB Scotland and the applicant to give precision. The changes requested by statutory consultees SNH and SEPA have been implemented. Overall, I consider that the conditions would control and manage the proposed development and, should the necessity arise, allow enforcement action to be taken.

Summary of findings

11.29 The final version of the draft conditions represents almost universal agreement between the parties in terms of the conditions that should be imposed should consent be granted. I do not consider it necessary to include RSPB Scotland as a consultee or as a member of the habitat management plan steering group. Targeted sward height management is required to avoid conflict with a qualifying interest of the Caithness and Sutherland Peatlands SPA but would not result in significant dis-benefit to the restoration proposals. Reference to agreements within conditions is appropriate in this instance to avoid delay in process. Conditions related to archaeology and financial guarantee are precise and reasonable. The conditions set out in Appendix 1 should be imposed if Scottish Ministers were minded to grant consent.

CHAPTER 12: OVERALL CONCLUSIONS AND RECOMMENDATIONS

12.1 This chapter contains my conclusions on the proposed development with reference to my findings throughout this report. It also provides a review of the application in relation to the provisions set out in chapters 1 and 2 of this report.

Reporter's findings

12.2 In relation to the matters considered throughout this report my findings can be found in the following paragraphs:

Chapter:	Findings:	Summary:
3. Landscape and visual impact	3.56 to 3.76	3.77
4. Wild land	4.23 to 4.28	4.29
5. Ornithology	5.706 to 5.839	5.840 to 5.841
6. Ecology	6.41 to 6.44	6.45
7. Peat	7.146 to 7.163	7.164
8. Carbon payback period	8.58 to 8.68	8.69
9. Economic benefits / dis-benefits	9.23 to 9.29	9.30
10. Other relevant matters	10.2 to 10.16	10.17
11. Conditions	11.22 to 11.28	11.29

Reporter's conclusions on matters

12.3 Overall, having regard to my findings, I conclude in relation to the proposed development that:

- The applicant, when formulating its proposals, has had sufficient regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and has suggested reasonable forms of mitigation where appropriate.
- The content of the environmental information submitted provides a sound basis to assess the proposed development; the findings and proposed mitigation (as controlled through conditions which would be imposed on consent and deemed planning permission) are sufficient to find that there would be limited adverse impacts arising from the proposed development, including (as far as possible) to the stock of fish in any waters.
- The removal of commercial forestry and restoration of moorland would provide a positive landscape enhancement. The character, appearance and scenic qualities of national scenic areas would be maintained. There would be a limited number of significant landscape and visual impacts, including cumulative impacts, but these would be from relatively remote locations. The vast majority of views from residences, routes, trails and summits assessed would have no significant landscape or visual impacts, including cumulatively and sequentially. Overall, the landscape and visual impact would be acceptable.

- The character and qualities of wild land areas would not be adversely affected by the proposed development.
- Owing to potential effects on red-throated diver, greenshank and hen harrier an assessment, under Regulation 61 of the Conservation of Habitats and Species Regulations 2010, requires to be made of the implications of the project for the Caithness and Sutherland Peatlands SPA in view of the site's conservation objectives. For the reasons given in chapter 5, and having identified all the aspects of the proposed development which, whether by themselves or in combination with other consented or proposed developments, could affect the conservation objectives of the SPA, I conclude that the proposed development would not have an adverse effect on the integrity of the SPA. That conclusion is based on my assessment of the evidence presented to the inquiry and I am satisfied that no reasonable scientific doubt remains as to the absence of such effects.
- No other bird species would be adversely affected by the proposed development.
- Mitigation measures, and continued monitoring and management, would ensure no harm to protected species on land or in the River Strathy catchment.
- The removal of commercial forestry and restoration (primarily to blanket bog) would support peatland revival and areas of important plant life.
- Restoration would not draw on funding specifically directed at peatland restoration therefore freeing monies for other projects.
- Peat extraction would not be significant in relation to the site and surroundings; and could be successfully re-instated, moved, stored, maintained and used in restoration.
- Hydro-connectivity between areas of peat would be retained.
- Any impact on the future nomination and designation process for the Flow Country World Heritage Site would likely be neutral.
- An assessment under Regulation 61 of the Conservation of Habitats and Species Regulations 2010 in relation to the Caithness and Sutherland Peatlands Special Area of Conservation is not required.
- There is sufficient information to justify the carbon payback period and give Scottish Ministers confidence in the calculated 1.1 year period expected payback period.
- There would be significant economic investment in the local area, Highland and Scotland supporting local contractors; jobs opportunities; and local services, facilities and accommodation providers.

- The income share agreement to allow Melness and Tongue Community Development Trust to own part of the proposed development would secure long-term financial stability for the Trust to the benefit of community chosen projects.
- Investment in the local area would aid population retention.
- Any impacts in relation to air safety; noise; access; human safety; public water supply; telecommunications and cultural heritage would be insignificant, acceptable and/or mitigated successfully with conditions.
- The conditions presented in Appendix 1 are fit for purpose and enforceable should the need arise.

Reporter's conclusions in relation to the policy context

Policy disputes

12.4 Before addressing the proposed development specifically, there were two areas of specific dispute in relation to the policy context which I turn to now.

12.5 From the evidence submitted, I find that renewable energy projects installed (7.1 giga watts (GW)), under construction or consented (8.7 GW) come close to achieving the required equivalent amount required to meet Scotland's 2020 renewable energy target of 16 GW. I also note that there are some 19.8 GW of renewables "in planning". However, I agree with the findings of the Audit Scotland report (see paragraph 2.13 of this report) that not all consented or "in planning" projects will come forward. In addition, I don't agree with objectors that the equivalent figure of 16 GW is a cap on renewable energy. There is an ability to go beyond the target and make greater savings.

12.6 In relation to the issue of "perpetuity" (stated in paragraph 170 of Scottish Planning Policy) I find agreement with the applicant that the statement ensures that when applying for consent it cannot be argued that the time-limited lifespan of a wind farm is mitigation. The Scottish Government response in 2014 confirms this interpretation (see paragraph 2.23 of this report). Therefore, the impacts of the proposed development are assessed now; and can be re-assessed if any future application is made to repower the site.

Renewable energy targets

12.7 The proposed development would install 39 wind turbines at 3.4 MW capacity, therefore, contributing over 130 MW to the energy supply. This contribution would support European, United Kingdom and Scottish greenhouse and renewable energy targets (for which there is no cap); and aid in the reduction of carbon dioxide emissions.

National Planning Policy Framework 3

12.8 The proposed development would support the vision and aims of National Planning Policy Framework 3 to make Scotland 'a low carbon place' by capitalising on the wind resource and encouraging community ownership. And, it would align with the vision and aims of NPPF 3 to make Scotland 'a natural, resilient place' by sufficiently protecting landscapes, wilderness, biodiversity and providing peatland restoration.

Scottish Planning Policy (2014)

12.9 Parties initially disagreed on the use of the spatial framework table set out on page 39 of Scottish Planning Policy. However, parties agreed that the purpose of the table was to guide the planning authority in preparing a spatial framework as a guide for developers and communities in its development plan; and was not to be used in the direct determination of applications. Instead parties agreed, as do I, that the considerations set out in paragraph 169 were of direct importance to any assessment.

12.10 Looking at the considerations in paragraph 169, I conclude that the proposal would be favoured by Scottish Planning Policy as:

- The net economic impact, including local and community socio-economic benefits would be significant (see chapter 9).
- The proposal would make a valuable contribution to renewable energy generation targets (see paragraph 12.7).
- Tree felling; renewable energy generation; and peatland restoration from the proposal interact to form a complex picture in relation to greenhouse gas emissions in the short to long term. However, the development would have a short carbon payback period (1.1 years) and restoration of the site would likely return it to a carbon sink in the long term (see chapter 8).
- Cumulative impacts are predicted in relation to landscape and visual impact, noise and on bird collision rates. However, these have been found to be acceptable (see chapters 3, 5 and 10).
- Clustering wind farm development in one location means that the proposed development can use existing infrastructure, including access and grid connection with a reduced impact compared to a stand-alone proposal.
- The remote location of the application site means that there would be very limited impact on local communities in relation to shadow flicker (none), noise, visual impact and residential amenity.
- There would be limited landscape and visual impact of note; and no impact on the qualities of wild land (see chapters 3 and 4).
- The effects on natural heritage, including birds, would be acceptable (see chapters 5 and 6).
- The impact on carbon rich soils, using the carbon calculator, would be acceptable (see chapters 7 and 8).
- There would be very minor impacts on public access mitigated by conditions (see chapter 10).
- There would be no significant impacts on any items of historic interest (see chapter 10).
- Any impact on tourism or recreation would be limited (see chapter 9).
- There would be no impact on aviation interests (see chapter 10).
- There would be no impact on telecommunications, broadcasting, and transmission links (see chapter 10).
- Impacts on road traffic and the trunk road network would be adequately controlled (see chapter 10).
- Any effects on the water environment and hydrology would be suitably controlled (see chapters 6 and 7). The development would not be at risk of flooding, or increase risk to other persons or infrastructure.

- Suitable conditions could be imposed to control and monitor the development, and to provide a basis (if necessary) for enforcement action. Site restoration would be secured through a financial guarantee (see chapter 11).

12.11 Scottish Planning Policy also introduces a presumption in favour of development that contributes to sustainable development. I have identified some negative impacts as a result of the proposed development throughout my findings (particularly related to landscape and visual impact) but, as explained earlier, these are limited in scope and taking a balanced view are acceptable overall. Again, looking at the guiding principles set out in paragraph 29, and in relation to my findings and conclusions in paragraphs 12.3 and 12.10 above, I conclude that the proposal would make a contribution to sustainable development.

The Highland-wide Local Development Plan

12.12 The proposed development is designed to make best use of the wind resource and minimise environmental impact. Addressing the impacts against the benefits, outlined in my findings and conclusions, it is clear that the proposal would support the Highland population with limited environmental impacts and social and economic gains. Tree felling would be acceptable in this instance as an alien feature in the landscape (and following the advice of the Forestry Commission to not re-stock commercial forestry in proximity to designated sites). The disturbance of peat and measures to protect, re-introduce, move, store, maintain, and restore it have been adequately addressed. The impact on peat resources would be acceptable and beneficial as restoration proceeds. There would be no adverse impact to protected species. Local landscape characteristics, special landscape areas and national scenic areas would be respected. No uncontrolled pollution would arise as a consequence of the development. There would be no flood risk. And, public access would be maintained. For these reasons, I conclude that the proposal would comply with policies 28, 29, 51, 52, 55, 58, 59, 60, 61, 64, 72, 77 and 78 (see Appendix 2 for a list of the policies).

12.13 For all the reasons stated in paragraph 12.12, and outlined previously, the proposed development would have no unacceptable impact on features of local/regional importance and no significant adverse impacts on features of national importance. Likely significant effects are noted in relation to the Caithness and Sutherland Peatlands SPA. For the reasons given in chapter 5, and having identified all the aspects of the proposed development which, whether by themselves or in combination with other consented or proposed developments, could affect the conservation objectives of the SPA, I have concluded that the proposed development would not have an adverse effect on the integrity of the SPA. No likely significant effects in relation to the Caithness and Sutherland Peatlands SAC are predicted. Consequently, I find that the proposed development complies with policy 57.

12.14 Policy 67 closely follows paragraph 169 of Scottish Planning Policy in relation to a list of considerations that are required for renewable energy developments to be considered satisfactory. Following my conclusion in relation to Scottish Planning Policy (in paragraph 12.10) I conclude that the proposal would be compliant with the provisions of policy 67.

12.15 I note that the proposal would allow the Melness and Tongue Community Development Trust to gain ownership of part of the development. Policy 68 allows consideration of community ownership where a community would be significantly impacted

by a proposal. In this case, no community would be significantly impacted by the proposed development. Policy 68 is therefore not directly applicable. However, I still find that the community ownership offered is a significant material consideration.

Other policy provisions

12.16 The proposal would also be consistent with other national guidance and the council's supplementary planning guidance presented in chapter 2.

12.17 I therefore conclude that the proposed development complies with the relevant provisions of the development plan.

12.18 I am satisfied that there are no other relevant considerations, which have not already been addressed above, that would have a bearing on the decision.

Overall conclusions

12.19 In summary, I conclude that the proposed development is supported by national policies which promote the development of onshore wind farms in appropriate locations, and is consistent with the provisions of the Highland-wide Local Development Plan, supplementary guidance and national guidance. I also conclude that any adverse environmental effects of the proposal would be satisfactorily mitigated by the provisions within the proposed conditions (see Appendix 1), or are otherwise acceptable as part of the balancing exercise, and that there are no other material considerations which would justify refusing consent for the project.

Recommendation

12.20 It is recommended that Scottish Ministers:

1. Grant consent under section 36 of the Electricity Act 1989 for the application (for 39 wind turbines), subject to the relevant conditions set out in Appendix 1.
2. Grant deemed planning permission under section 57 of the Town and Country Planning (Scotland) Act 1997 (as amended) for the application, subject to the relevant conditions set out in Appendix 1.

J Alasdair Edwards

Reporter

APPENDIX 1: Conditions

The consent granted in accordance with Section 36 of the Electricity Act 1989 and direction that planning permission be deemed to be granted under section 57 of the Town and Country Planning (Scotland) Act 1997 are subject to the following conditions:

The Development shall have a maximum capacity of 133 MW and shall comprise a wind-powered electricity generating station approximately 12 km south of Strathy Village in Sutherland (Central Grid Reference 280600, 530000):

- 39 (amended from 47) wind turbines - maximum blade tip height of 135 metres
- 3 permanent anemometer masts (with a height of up to 90 metres)
- electricity switching station and control building
- temporary site construction compound including mess facilities
- 4 borrow pits.

("the Development")

all as specified in the Application submitted by SSE GENERATION LIMITED, incorporated under the Companies Acts (Registered Number 02310571) and having its registered office at 55 Vastern Road, Reading, Berkshire, RG1 8BU ("the Developer") and supporting environmental information, which comprises the Environmental Statement 2007, Environmental Statement Addendum 2013 and the Further Information Report 2014.

****Conditions Attached to Section 36 Consent****

Duration of Consent

1. The consent is for a period of 25 years from the date of Final Commissioning. Written confirmation of the date of First Commissioning shall be provided to the Planning Authority and Scottish Ministers no later than one calendar month after that date.

Reason: to define the duration of the consent.

Commencement of Development

2. The Commencement of the Development shall be no later than three years from the date of this consent, or in substitution such other period as the Scottish Ministers may hereafter direct in writing. Written confirmation of the intended date of Commencement of Development shall be provided to the Planning Authority and Scottish Ministers no later than one calendar month before that date.

Reason: in accordance with section 58 of the Town and Country Planning (Scotland) Act 1997 (as amended). To avoid uncertainty and ensure that the consent is implemented within a reasonable period.

Non-assignment

3. The Developer (as defined below) shall not be permitted to assign this consent without the prior written authorisation of the Scottish Ministers. The Scottish Ministers may assign the consent (with or without conditions) or refuse assignment as they may, in their own

discretion, see fit. The consent shall not be capable of being assigned, alienated or transferred otherwise than in accordance with the foregoing procedure. The Developer shall notify the local planning authority in writing of the name of the assignee, principal named contact and contact details within 14 days of written confirmation from the Scottish Ministers of an assignment having been granted. The Developer and any so consented assignee being referred to in these combined conditions as “the Developer”.

Reason: to safeguard the obligations of the consent if assigned to another Developer.

Serious Incident Reporting

4. In the event of any serious incident relating to health and safety or environmental obligations relating to the Development occurring during the period of this consent, the Developer will provide written notification of the nature and timing of the incident to the Scottish Ministers within 24 hours of the Developer becoming aware of the incident, and will provide including confirmation of remedial measures taken and/ or to be taken to rectify the incident, within one week of the incident.

Reason: to keep the Scottish Ministers informed of any such incidents which may be in the public interest.

****Deemed Planning Permission Conditions****

Duration

1. This planning permission shall expire and cease to have effect after a period of 30 years from the date when electricity is first exported from any of the approved wind turbines to the electricity grid network (the "First Export Date") excluding any generation exported for testing purposes. Upon the expiration of a period of 25 years from the First Export Date, the wind turbines shall be decommissioned and removed from the site, with decommissioning and restoration works undertaken in accordance with the terms of condition 3 of this permission. Written confirmation of the First Export Date shall be submitted in writing to the Planning Authority within one month of the First Export Date.

Reason: wind turbines have a projected lifespan of 25 years, after which their condition is likely to be such that they require to be replaced, both in terms of technical and environmental considerations. The 30 year cessation date allows for a 5 year period to complete decommissioning and site restoration work.

Planning Authority Consultant

2. No development shall commence until the Planning Authority has approved the terms of appointment and the identity of the appointee by and at the cost of the Developer of an independent and suitably qualified consultant to assist the Planning Authority in the monitoring of compliance with conditions attached to this deemed planning permission during the period from commencement of Development to the date of final commissioning.

Reason: to enable the Development to be suitably monitored during the construction phase to ensure compliance with the permission issued.

Decommissioning and Restoration Plan

3.1 No development (excluding keyhole felling and preliminary ground investigation which shall be permitted) shall commence until an Interim Decommissioning and Restoration Plan

(IDRP) for the site has been submitted to, and approved in writing by, the Planning Authority in consultation with SNH and SEPA. Thereafter:

- i. Not later than 3 years prior to the decommissioning of the Development, the IDRP shall be reviewed by the Developer, to ensure that the IDRP reflects best practice in decommissioning prevailing at the time and ensures that site specific conditions, identified during construction of the site, and subsequent operation and monitoring of the Development are given due consideration. A copy shall be submitted to the Planning Authority for their written approval, in consultation with SNH and SEPA.
- ii. Not later than 12 months prior to the decommissioning of the Development, a detailed Decommissioning and Restoration Plan (DRP), based upon the principles of the approved interim plan, shall be submitted to, and approved in writing by, the Planning Authority, in consultation with SNH and SEPA.

3.2 The IDRP and subsequent DRP shall include, unless otherwise agreed in writing with the Planning Authority and in accordance with legislative requirements and published best practice at time of decommissioning details about the removal of all elements of the Development, relevant access tracks and all cabling, including where necessary details of (a) justification for retention of any relevant elements of the Development; (b) the treatment of disturbed ground surfaces; (c) management and timing of the works; (d) environmental management provisions; and (e) a traffic management plan to address any traffic impact issues during the decommissioning period. Where infrastructure is removed, provision for drainage reinstatement to achieve in perpetuity natural drainage patterns consistent with the delivery of the Habitat Management Plan. The DRP shall be implemented as approved. In the event that the Final DRP is not approved by The Highland Council in advance of the decommissioning, unless otherwise agreed by the Planning Authority the Interim IDRP shall be implemented.

Reason: to ensure that all wind turbines and associated Development are removed from site should the wind farm become largely redundant; in the interests of safety, amenity and environmental protection.

Financial Guarantee

4. No development shall commence until a Section 69 Agreement under the Local Government (Scotland) Act 1973 is in place to provide a financial guarantee with the Planning Authority to secure the proper decommissioning of the wind farm and site reinstatement as set out within the approved interim Decommissioning and Restoration Plan (IDRP) required under Condition 3 above. This agreement shall include:

- i. The maximum sum required to decommission the Development in line with the IDP.
- ii. Details of the financial guarantee which can either be by way of a (i) restoration bond; (ii) letter of credit (or such other suitable financial instrument with a reputable financial institution); (iii) restoration fund, or (iv) any combination of (i) (ii) and (iii) reflecting the maximum sum required to decommission the site in line with the IDRP.
- iii. Details of provisions related to continuing liability on transfer.
- iv. Details of procedure in relation to resolution of disputes, the maximum sum shall be reviewed periodically at intervals of not less than five (5) years from the date of

first grant of the Financial Guarantee, and thereafter not later than the date occurring five (5) years after the date of the next preceding review.

Reason: to ensure the necessary finances are secured to guarantee site restoration.

Electricity Supply

5.1 The Developer shall, at all times after the First Export Date, record information regarding the monthly supply of electricity to the national grid from each turbine within the Development and retain the information for a period of at least 24 months. The information shall be made available to the Planning Authority within one month of any request by them. In the event that:

- i. Any wind turbine installed and commissioned fails to supply electricity on a commercial basis to the grid for a continuous period of 6 months from the date on which it stopped supplying energy, then the wind turbine in question shall be deemed to have ceased to be required. Thereafter, the Planning Authority may direct in writing that the wind turbine, along with any ancillary equipment, fixtures and fittings not required in connection with retained turbines, shall, within 3 months of the end of the said continuous 6 month period, be dismantled and removed from the site and the surrounding land fully reinstated in accordance with this condition. For the avoidance of doubt, in making a direction under this condition, the Planning Authority shall have due regard to the circumstances surrounding the failure to generate and shall only do so following discussion with the Developer and such other parties as they consider appropriate.
- ii. The wind farm fails to supply electricity on a commercial basis to the grid from 50% or more of the wind turbines installed and commissioned and for a continuous period of 12 months from the date on which it stopped supplying energy, then the Developer must notify the Planning Authority in writing immediately. Thereafter, the Planning Authority may direct in writing that the wind farm shall be decommissioned and the application site reinstated in accordance with this condition. For the avoidance of doubt, in making a direction under this condition, the Planning Authority shall have due regard to the circumstances surrounding the failure to generate and shall only do so following discussion with the Developer and such other parties as they consider appropriate.

5.2 For the avoidance of doubt 5.1(i) and 5.1(ii) shall not apply if such outages are out with the Developer's control or as a consequence of any emergency or requirement of National Grid. In these instances the planning authority shall be informed of the turbine shut downs, reasons for the turbine shut downs and timescales for the outages within 5 working days of the turbines being switched off.

5.3 All decommissioning and reinstatement work required by this condition shall be carried out in accordance with the approved Decommissioning and Restoration Plan (DRP) or, should the DRP not have been approved at that stage, other decommissioning and reinstatement measures, based upon the principles of the Interim Decommissioning and Restoration Plan (IDRP), as may be approved in writing by the Planning Authority.

Reason: to ensure that any redundant or non-functional wind turbines removed from site, in the interests of safety, amenity and environmental protection.

Wind Turbine Details

6.1 No development shall commence until full details of the proposed wind turbines have been submitted to, and approved in writing by, the Planning Authority. These details shall include:

- i. The make, model, design, power rating and sound power levels of the turbines to be used.
- ii. The external colour and/or finish of the turbines to be used (incl. towers, nacelles and blades) which should be non-reflective pale grey semi-matt.

6.2 Thereafter, development shall progress in accordance with these approved details and, with reference to condition 6.1 part ii above, the turbines shall be maintained in the approved colour, free from external rust, staining or discolouration, until such time as the wind farm is decommissioned. For the avoidance of doubt, all wind turbine blades shall rotate in the same direction.

Reason: to ensure that the turbines chosen are suitable in terms of visual, landscape, noise and environmental impact considerations.

Wind Turbine Transformers

7. Unless otherwise agreed in writing by the Planning Authority, all of the wind turbine transformers shall be located within the tower of the wind turbine to which they relate.

Reason: to ensure ancillary elements of the Development, such as external transformers, are only permissible if, following additional design and LVIA work, they are demonstrated to be acceptable in terms of visual, landscape and other environmental impact considerations.

Buildings and Other Facilities

8. No development shall commence until full details of the approved location, layout, external appearance, dimensions and surface materials of all control, sub-station and other buildings, welfare facilities, compounds and parking areas, as well as any fencing, walls, paths and any other ancillary elements of the Development, including any proposed screening, have been submitted to, and approved in writing by, the Planning Authority (in consultation with SEPA and SNH, as necessary). Thereafter, development shall progress in accordance with the approved details.

Reason: to ensure that all ancillary elements of the Development are acceptable in terms of visual, landscape and environmental impact considerations.

No Advertisements

9. Notwithstanding the provisions of the Town and Country Planning (Control of Advertisements) (Scotland) Regulations 1984 (as amended), and unless there is a demonstrable regulatory, statutory, health and safety or operational reason, none of the wind turbines, anemometers, power performance masts, switching stations or transformer buildings/enclosures, ancillary buildings or above ground fixed plant shall display any name, logo, sign or other advertisement without express advertisement consent having been granted on application to the Planning Authority.

Reason: to ensure that the turbines are not used for advertising, in the interests of visual amenity.

Aviation Lighting and Information

10.1 No development shall commence until a scheme of aviation lighting is submitted to, and approved in writing by, the Planning Authority after consultation with the Ministry of Defence. Thereafter the approved scheme of aviation lighting shall be fully implemented on site, unless otherwise approved in writing by the Planning Authority in consultation with the Ministry of Defence.

10.2 The Developer shall provide both the Ministry of Defence and the Defence Geographic Centre (AIS Information Centre) with a statement, copied to the Planning Authority and Highland and Islands Airports Limited, containing the following information:

- i. The date of commencement of the Development.
- ii. The exact position of the wind turbine towers in latitude and longitude.
- iii. A description of all structures over 300 feet high.
- iv. The maximum extension height of all construction equipment.
- v. The height above ground level of the tallest structure.
- vi. Detail of an infra-red aviation lighting scheme as agreed with aviation interests and the Planning Authority to include:

(a) turbines at the cardinal points should be fitted with 25 candela omni-directional red lighting and infra-red lighting with an optimised flash pattern of 60 flashes per minute of 200ms to 500ms duration at the highest practicable point; and

(b) remaining perimeter turbines should be fitted with infra-red lighting with an optimised flash pattern of 60 flashes per minute of 200ms to 500ms duration at the highest practicable point.

Reason: to ensure that the erected turbines present no air safety risk and in a manner that is acceptable to local visual impact considerations.

Liaison Group

11. No development shall commence until a community liaison group is established by the Developer, in collaboration with the Planning Authority and local Community Councils. The group shall act as a vehicle for the community to be kept informed of project progress and, in particular, should allow advanced dialogue on the provision of all transport-related mitigation measures and to keep under review the timing of the delivery of turbine components. This should also ensure that local events and tourist seasons are considered and appropriate measures to co-ordinate deliveries and work with these and any other major projects in the area to ensure no conflict between construction traffic and the increased traffic generated by such events / seasons / developments. The liaison group, or element of any combined liaison group relating to the Development, shall be maintained until the wind farm has been completed and is fully operational.

Reason: to assist with the provision of mitigation measures to minimise the potential hazard to road users, including pedestrians travelling on the road networks.

Abnormal Loads

12. Prior to commencement of deliveries to site, the proposed route for any abnormal loads on the trunk road / local network must be approved by the relevant roads authority prior to the movement of any abnormal load. Any accommodation measures required including the

removal of street furniture, junction widening, traffic management must similarly be approved.

Reason: to minimise interference and maintain the safety and free flow of traffic on the trunk / local road network as a result of the traffic moving to and from the Development.

Turbine Delivery

13. During the delivery period of the wind turbine construction materials any additional signing or temporary traffic control measures deemed necessary due to the size or length of any loads being delivered or removed must be undertaken by a recognised traffic management consultant, to be approved by Transport Scotland / the Planning Authority before delivery commences.

Reason: to ensure that the transportation will not have any detrimental effect on the road and structures along the route.

Traffic Impact Assessment

14. No development shall commence until an updated traffic impact statement is submitted to and approved in writing by the Planning Authority. Where departures are proposed from the initial traffic impact assessment, these must be supported with an agreed pre-construction survey assessment and appropriate mitigation to safeguard the integrity of the local road network including if necessary an agreement under Section 96 of the Roads (Scotland) Act 1984.

Reason: to ensure that all construction traffic will not have any detrimental effect on the road and structures to be used within the construction of the Development.

Access Management Plan

15.1 No development shall commence until a detailed Outdoor Access Plan of public access across the site (as existing, during construction and following completion) has been submitted to, and approved in writing by, the Planning Authority.

15.2 The Outdoor Access Plan shall include details showing:

- i. All known existing access points, paths, core paths, tracks, rights of way and other routes (whether on land or inland water), and any areas currently outwith or excluded from statutory access rights under Part One of the Land Reform (Scotland) Act 2003, within and adjacent to the application site.
- ii. Any areas proposed for exclusion from statutory access rights, for reasons of privacy, disturbance or effect on curtilage related to proposed buildings or structures.
- iii. All proposed paths, tracks and other alternative routes for use by walkers, riders, cyclists, canoeists, all-abilities users, etc. and any other relevant outdoor access enhancement (including construction specifications, signage, information leaflets, proposals for on-going maintenance etc.).
- iv. Any diversion of paths, tracks or other routes (whether on land or inland water), temporary or permanent, proposed as part of the Development (including details of mitigation measures, diversion works, duration and signage).

15.3 The approved Outdoor Access Plan, and any associated works, shall be implemented in full prior to the commencement of development or as otherwise may be agreed within the approved plan.

Reason: in order to safeguard public access during the construction, operation and restoration phases of the Development.

Main Access Route

16. No development shall commence unless information on the location of passing places on the section of the main access route which is located within the boundary of the Caithness and Sutherland Peatlands Special Area of Conservation has been submitted to and their location, design and construction methodology is approved in writing by the Planning Authority in consultation with SNH.

Reason: to ensure the required road related mitigation does not have a significantly adverse impact on the Caithness and Sutherland Peatlands SAC.

Micrositing

17.1 Where ground conditions require it, wind turbines, masts, trenches, areas of hard standing and tracks ("Site Infrastructure") within the application site boundary of the Development may, subject to the terms of this deemed planning condition 17, be 'microsited' by the Developer within the application site boundary of the Development to locations other than the precise locations shown on the approved plans.

17.2 Subject to condition 17.4 any such proposed micrositing of Site Infrastructure is subject to the following restrictions:

- i. No wind turbine foundation shall be positioned higher, when measured in metres Above Ordinance Datum (Newlyn), than the height shown on the approved plans.
- ii. No site infrastructure may be relocated:
 - (a) More than 50 metres from the position of each relevant item of Site Infrastructure delineated on the approved plans.
 - (b) So as to be located within 250 metres (for turbine/mast foundations) or 150 metres (for hardstanding, tracks or trenches) of ground water dependent terrestrial ecosystems.
 - (c) To a position within 50 metres of any watercourse or, where it outlines a lesser distance, to a position within a watercourse buffer zone identified within the Environmental Statement and/or the approved plans.
 - (d) Unless otherwise agreed with the Planning Authority, (in consultation with SEPA and SNH), to a position within an area identified within the Environmental Statement and/or the approved plans as having greater adverse effect in relation to the following: gradient constraint; deep peat (that is peat with a depth of 0.5 metres or greater); peat landslide hazard risk or the qualifying features of the Caithness and Sutherland Peatlands SPA/SAC.
- iii. No boundaries of roads, access paths and tracks within the boundary of the Caithness and Sutherland Peatlands Special Area of Conservation, may be moved from positions shown on the approved plans unless approved in writing in advance by the Planning Authority in consultation with SNH and SEPA.

- iv. No site infrastructure may be moved where a change to its/their position, location or route has been proscribed under a condition of this permission unless otherwise agreed with the Planning Authority.

17.3 All micrositing permissible under this condition without requiring the approval of the Planning Authority must be approved in writing and in advance by the Environmental Clerk of Works (“ECoW”). A written record must be kept by the Developer of any such ECoW approval and shall be maintained for a period extending to no less than four years following the First Export Date.

17.4 Any micrositing beyond 50 metres of the position shown on the approved plans shall be submitted to and approved in writing by the Planning Authority in consultation with SNH and SEPA. In making such a request for micrositing beyond the 50 metres of the position shown on the approved plans under this condition, the Developer must submit the following supporting information:

- i. A plan showing the proposed location of the microsited item/installation(s) relative to the original location(s) in the approved plans.
- ii. Detailed reasoning for the proposed micrositing of the proposed microsited item/installation(s).
- iii. An assessment of the landscape and visual impact and any adverse impact on any Wild Land Area of the proposed microsited item/installation(s).
- iv. Such other information as may be required by the Planning Authority.

17.5 Prior to the First Export Date, the Developer must submit updated site plans to the Planning Authority showing the final position of all Site Infrastructure, buildings, transmission lines, anemometer masts and other constructed items within the application site boundary. These updated plans must identify all instances where micrositing has taken place from the positions identified in the approved plans and, for each such instance, be accompanied by copies of the written ECoW or Planning Authority's approval to such micrositing, as applicable.

Reason: to enable appropriate micro-siting within the site to enable the Developer to respond to site-specific ground conditions, while enabling the planning authority to retain effective control over any changes to layout that may have ramifications for the environment and/or landscape and visual impact.

Construction and Environmental Management Document

18.1 No development shall commence until a Construction and Environmental Management Document (CEMD) is submitted to and agreed in writing by the Planning Authority in consultation with SNH and SEPA. The CEMD shall include but not be limited to:

- (a) An updated Schedule of Mitigation (SM) including mitigation proposed in support of the application and supported by statutory agencies and other agreed mitigation as set out within conditions. These may include matters which extend well beyond the construction phase of the project and the application site.
- (b) Processes to control/action changes from the SM.
- (c) Full details of the approved location, layout, dimensions, surface materials, type and construction methodologies of all internal access tracks within the application site boundary.
- (d) The following specific Construction and Environmental Management Plans (CEMPs):

- i. Peat Management Plan – to include details of all proposed peat stripping, excavation, storage and reuse of material in accordance with best practice advice published by SEPA and SNH. This should for example highlight how sensitive peat areas are to be marked out on-site to prevent any vehicle or work practices causing inadvertent damage.
- ii. Wetland Ecosystems Survey and Mitigation Plan.
- iii. Water Management Plan – highlighting proposed drainage provisions including monitoring/ maintenance regimes, deployment of water-crossings using bottomless culverts, surface water drainage management (SUDs), sizing of watercourse crossings not to result in increased flood risk to people or property and development buffers from watercourses (50 metres), water features (20 metres) and identified groundwater dependent terrestrial ecosystems.
- iv. Pollution Prevention Plan.
- v. Site Waste Management Plan – including, but not limited to, quantification, nature, proposed uses, location of proposed uses and management of all material extracted from forest or other tracks or other infrastructure to be restored during or following the construction phase.
- vi. Soil Storage and Management and Spoil Heap Plan – to include plans for the removal, storage, re use and removal of soil and spoil prior to, during and on conclusion of construction.
- vii. Working methods for cable laying.
- viii. Construction Noise Mitigation Plan.
- ix. Restored Ground Preservation Plan - to include measures to minimise damage by grazing animals, including deer, to restored and reinstated ground.
- x. Woodland Plan highlighting the extent and type of felling works to be undertaken. This plan should seek to maximise extraction of timber. Management shall be in accordance with best practice as set out in "Management of Forestry Waste" (SEPA Guidance WST-G-027) and joint-agency "Use of trees to facilitate development on afforested land" (SEPA Guidance LUPS-GU27)".
- xi. Details of any other methods of monitoring, auditing, reporting and communication of environmental management on site and with the Developer, Planning Authority and other relevant parties.
- xii. Statement of any additional persons responsible for 'stopping the job /activity' if in actual or potential breach of a mitigation or legislation occurs.
- xiii. Details of proposed post-construction restoration/reinstatement of the working areas not required during the operation of the Development, including, construction access tracks, borrow pits, construction compound and other temporary construction areas and, where infrastructure is removed, provision for drainage reinstatement to achieve in perpetuity natural drainage patterns consistent with the delivery of the Habitat Management Plan. Wherever possible reinstatement is to be achieved by the careful use of turfs removed prior to construction works. Details should include all seed mixes to be used for the reinstatement of vegetation.

18.2 In implementing the Peat Management Plan the Developer shall comply in full with "Developments on Peatland: Guidance on the assessment of peat volumes, reuse of excavated peat and the minimisation of waste" published by SEPA and Scottish Renewables (version 1, January 2012) or any amending, substitute or replacement guidance.

18.3 All elements of the CEMD shall be devised and drawn up to co-ordinate and be consistent with the approved Habitat Management Plan.

18.4 Unless otherwise agreed in writing in advance by the Planning Authority, following consultation with SNH and SEPA, the Development shall proceed in accordance with the CEMD, agreed documents and mitigation.

Reason: to ensure that all construction operations are carried out in a manner that minimises their impact on road safety, amenity and the environment, and that the mitigation measures contained in the Environmental Statement accompanying the application, or as otherwise agreed, are fully implemented.

Ecological Clerk of Works

19.1 No development shall commence until the Planning Authority has approved the terms of appointment and the identity of the proposed appointee by and at the cost of the Developer of an independent and suitably qualified ECoW with roles and responsibilities which shall include but not necessarily be limited to:

- Providing training to the Developer and contractors on their responsibilities to ensure that work is carried out in strict accordance with environmental protection requirements required by this deemed consent and by law.
- Monitoring compliance with all environmental and nature conservation mitigation works and working practices approved under this deemed consent, the CEMD, all CEMPs, the Pre-Construction Species Survey and Protection Plan and Habitat Management Plan.
- Advising the Developer on adequate protection for environmental and nature conservation interests within, and adjacent to, the application site.
- Liaising with and providing information to the HMP SG (defined below).
- Consideration of proposals made by the Developer for review of the Habitat Management Plan and reporting to the Planning Authority and SNH on such proposals.
- Consideration of all reporting by the Developer required in terms of this deemed consent during construction, including ornithological and vegetation reporting and tree felling and reporting to the Planning Authority and SNH on such reporting.
- Directing the placement of Site Infrastructure (including written approval of any micro-siting, as permitted by the terms of this deemed consent) and the avoidance of sensitive features.
- Regularly reporting to the Planning Authority, SNH and SEPA on all of the matters falling within his or her roles and responsibilities and making urgent reports to the Planning Authority, SNH and SEPA as may from time to time be appropriate.

19.2 In the event that for whatever reason a replacement ECoW shall require to be appointed the Developer shall immediately advise the Planning Authority in writing that such is the case and shall as soon as reasonably practicable advise the Planning Authority in writing of the identity of the proposed replacement appointee by and at the cost of the Developer of an independent and suitably qualified ECoW and the terms of his or her proposed appointment for the consideration and, if thought appropriate, approval of the Planning Authority.

19.3 Under the terms of his or her appointment, the ECoW shall be given powers to order a stop to any activity on site which in his or her reasonable opinion could lead to an incidence

of non-compliance with the environmental and ecological conditions in this deemed planning permission or a breach of environmental law and such activity shall forthwith stop.

19.4 The ECoW shall report all such stoppages to the Developer's nominated construction project manager and the Planning Authority without delay and the activity shall not recommence unless and until the ECoW has confirmed in writing that he or she is satisfied that such measures as are required have been taken to ensure that the relevant incidence of non-compliance with the environmental and ecological conditions in this deemed planning permission or a breach of environmental law shall nor re-occur. Any such stoppages which result in a cessation of any construction activity in excess of five working days shall be reported, with full particulars of the works and reasons for stoppage, in writing to the Planning Authority, SNH and SEPA within ten working days of the cessation of the relevant works.

Reason: to protect the environment from the construction and operation of the Development and secure final detailed information on the delivery of all on-site mitigation projects.

Pre-Construction Species Survey and Protection Plan and Protected Bird Species, Vegetation and Tree Felling Monitoring, Surveys and Reporting

20.1 No development shall commence until a Pre-Construction Species Survey and Protection Plan (PCP) is submitted to and approved in writing by the Planning Authority (in consultation with SNH) providing that pre-construction surveys for legally protected species should be carried out at an appropriate time of year for the species, in the 8 months preceding commencement of construction, and a watching brief should then be implemented by the ECoW during construction. The species that should be surveyed for include, but are not limited to, otter, water vole, pine marten and breeding birds. The area that is surveyed should include all areas directly affected by construction plus an appropriate buffer to identify any species within disturbance distance of construction activity and to allow for any micro-siting needs.

20.2 The ECoW should be involved in drafting and should approve any species protection plans that are required, using the information from the ES and such pre-construction surveys.

20.3 The ECoW shall oversee implementation by and at the cost of the Developer of the species protection plans and any licensing requirements.

20.4 Ornithological monitoring and surveys of all protected bird species identified in the Environmental Statement as being present on and around the application site shall be carried out and reported by the Developer to the ECoW and Planning Authority by the end of each calendar year during the construction phase of the Development.

20.5 During the operational phase of the Development, bird surveys of all protected bird species identified in the Environmental Statement as being present on and around the application site or found subsequently shall be carried out by the Developer in accordance with the SNH post construction ornithological monitoring guidance (SNH, 2009, or any amending, supplementary and/or successor guidance) and will be carried out in Development operational years 1, 3, 5, 10, 15 and 25. The results of all such ornithological monitoring and surveys such shall be reported as soon as practicable in writing by the Developer to the ECoW and the Planning Authority.

20.6 All mortalities of all protected bird species known or suspected as having been occasioned by collision with any part of the Development infrastructure which are identified by the Developer shall be reported as soon as practicable in writing by the Developer to SNH and the Planning Authority.

20.7 Monitoring of sward height shall be carried out by the Developer in the months of July, August or September in operational years 1-5 (inclusive), 7, 10, 15 and 25 and shall be reported by the Developer to the Planning Authority and the HMP Steering Group.

20.8 A report detailing the results of the year's sward height monitoring and any recommendations for the sward management of areas of cleared forestry shall be produced by the Developer at the end of each monitoring year, and shall be reported in writing by the Developer to the Planning Authority and the HMP Steering Group by the 31st December of Development construction years 1 and 2 and operational years 1, 2, 3, 4, 5, 7, 10, 15 and 25.

20.9 Unless otherwise agreed in advance in writing with the Planning Authority after consultation with SNH, all monitoring, surveying and reporting required by this deemed planning permission condition 20 shall be implemented in full by the Developer.

Reason: to ensure that impacts on protected species, vegetation and of tree felling are identified, reported on and in the case of protected species mitigated appropriately.

Archaeology

21. No development shall commence until a programme of work for the evaluation, preservation and recording of any archaeological and historic features affected by the Development, including a timetable for investigation, all in accordance with the Specification comprising Annex 1 to these Deemed Planning Permission Conditions, shall be submitted to and agreed in writing by the Planning Authority. The agreed proposals shall be implemented in accordance with the agreed timetable for investigation. The Developer shall comply in all respects with Annex 1.

Reason: in order to protect the historic interest of the site.

Peat Stability Plan

22.1 No development shall commence until a Peat Stability Plan, developed in consultation with SEPA and SNH, has been submitted to and approved in writing by the Planning Authority. The Peat Stability Plan shall draw upon the findings of any approved Environmental Statement, Peat Slide Risk Assessment, consider the findings of any additional ground investigations carried out prior to development commencing.

22.2 The Peat Stability Management Plan shall take due consideration of the mineral and slope stability of the site identified in the peat landslide risk assessment and shall have regard to the drainage implications of soil movement and storage. The Plan shall be implemented as approved.

Reason: to minimise the risk of peat failure arising from the Development.

Habitat Management Plan

23.1 No development shall commence until a Stage 1 Outline Habitat Management Plan has been submitted to and approved in writing by the Planning Authority in consultation with

SNH and SEPA. The Habitat Management Plan shall set out proposed long term management for the wind farm site and shall provide for the management, monitoring and reporting of terrestrial habitats on site. The Habitat Management Plan shall include as an aim targeted sward management to reduce attractiveness of the wind farm site for breeding hen harriers.

23.2 The approved Stage 1 Outline Habitat Management Plan will be reviewed and updated by the Developer to reflect ground condition surveys undertaken during construction and prior to the First Export Date and shall be submitted to the Planning Authority for its written approval in consultation with SNH and SEPA prior to the First Export Date, as the Stage 2 Outline Habitat Management Plan.

23.3 In furtherance of the aim and for the better implementation and review of the Habitat Management Plan a Steering Group (HMP SG) shall be formed prior to the commencement of development. The membership of this HMP SG will include representatives of the Developer, the Planning Authority, and SNH.

23.4 The Stage 2 Outline Habitat Management Plan shall be further reviewed by the Developer at a frequency of no longer than the 5 year anniversary of the First Export Date, and no longer than every 6 years thereafter until the Development is no longer in operation and the Decommissioning and Restoration Plan has been implemented in full. The Developer shall submit a stage reviewed Habitat Management Plan following each such Habitat Management Plan monitoring year as provided for in the Habitat Management Plan for approval in writing by the Planning Authority in consultation with SNH and SEPA. Mitigation identified through the reviewed Habitat Management Plans shall be implemented in full by the Developer, unless otherwise agreed in writing by the Planning Authority in consultation with SNH and SEPA.

23.5 HMP monitoring (excluding sward height monitoring) shall be carried out by the Developer in operational years 1, 5, 10, 15 and 25 and shall be reported to the Planning Authority and the HMP Steering Group in writing by the Developer.

23.6 The Developer shall submit a monitoring report to the Planning Authority, SNH and SEPA on the ongoing implementation of the approved Habitat Management Plan which will be provided no later than 6 months after the end of each HMP monitoring year. The monitoring report shall present an assessment of the implementation of the Habitat Management Plan, including:

- An assessment of the implementation of the Habitat Management Plan, and any reviewed such plan, in relation to the aims and objectives of the plan.
- The levels, if any, of habitat restoration delivered on site.
- The results of any monitoring and surveys required in compliance with the conditions of this deemed planning permission.

23.7 If a monitoring report, identifies that the implementation of the Habitat Management Plan is not meeting the aims and objectives of the Habitat Management Plan then this shall be reported by the Developer to the HMP SG along with details of the proposed mitigation and any other works considered to be required to ensure the aims and objectives of the approved Habitat Management Plan will be met within 6 months of the relevant monitoring report being so submitted. The HMP SG will review such proposals and make recommendations thereon. The Developer shall then finalise proposed mitigation and other

works, incorporate changes into an updated Habitat Management Plan which shall be submitted to the Planning Authority within 12 months of the relevant monitoring report for written approval in consultation with SNH and SEPA.

23.8 Unless otherwise agreed in advance in writing with the Planning Authority after consultation with SNH and SEPA, the approved Habitat Management Plan, each approved reviewed Habitat Management Plan and updated mitigation and works to achieve same shall be implemented in full by the Developer.

23.9 In implementing the Habitat Management Plan the Developer shall comply in full with the joint agency guidance "Use of Trees Cleared to Facilitate Development on Afforested Land - Joint Guidance from SEPA, SNH and Forestry Commission Scotland" LUPS-GU27 version 1 (April 2014) and SEPA waste management regulatory guidance "Management of forestry waste" WST-G-027 version 2 (July 2013) and in both cases any amending, substitute or replacement guidance.

Reason: in the interests of good land management, the protection of habitats and to minimise collision risk to bird species which are qualifying interests of the Caithness and Sutherland Peatlands Special Protection Area.

Deer Management Plan

24.1 No development shall commence until a Deer Management Plan has been submitted to and approved in writing by the Planning Authority in consultation with SNH. The deer management plan shall set out proposed long term management of deer using the wind farm site to safeguard adjacent areas of the Caithness and Sutherland Peatlands Special Area of Conservation (SAC) and shall provide for the monitoring of deer numbers on the wind farm site and of impacts from deer grazing and trampling on SAC habitat within and adjacent to the wind farm site from the period from commencement of development until the date of completion of restoration.

24.2 The approved deer management plan shall thereafter be implemented in full.

Reason: in the interests of good land management, and the management of deer and to avoid any increase in deer impacts on SAC habitats that might arise from displacement of deer from the wind farm site.

Borrow Pit Working

25. No development shall commence until a proposed scheme for the working of each borrow pit within the site has been submitted to, and approved in writing by, the Planning Authority, in consultation with SEPA and SNH. Thereafter, the scheme shall be implemented as approved. The scheme shall make provision for:

- i. Methods of working (including the timing of works and the use of explosives and/or rock-breaking equipment).
- ii. A description of the volume and type of minerals, aggregates and/or fines to be extracted from each borrow pit, including harness and potential for pollution.
- iii. A site plan and section drawings showing the location and extent of each proposed extraction area.
- iv. Overburden (peat, soil and rock) handling and management.
- v. Drainage infrastructure, including measures to prevent the drying out of surrounding peatland.

- vi. A programme for the re-instatement, restoration and aftercare of each borrow pit once working has ceased.

Reason: to ensure that a scheme is in place to control the use of borrow pits to minimise the level of visual intrusion and any adverse impacts as a result of the construction phase of the Development.

Noise

26.1 The rating level of noise immissions from the combined effects of the wind turbines (including the application of any tonal penalty) when determined in accordance with the attached Guidance Notes (to this condition), shall not exceed the values for the relevant integer wind speed set out in, or derived from, the tables attached to these conditions at any dwelling which is lawfully existing or has planning permission at the date of this permission.

26.2 The Developer shall continuously log power production, wind speed and wind direction, all in accordance with Guidance Note 1(d). These data shall be retained for a period of not less than 24 months. The Developer shall provide this information in the format set out in Guidance Note 1(e) to the Local Planning Authority on its request, within 14 days of receipt in writing of such a request.

26.3 Within 21 days from receipt of a written request from the Local Planning Authority following a complaint to it from an occupant of a dwelling alleging noise disturbance at that dwelling, the Developer shall, at its expense, employ a suitably qualified consultant to assess the level of noise immissions from the wind farm at the complainant's property in accordance with the procedures described in the attached Guidance Notes. The written request from the Local Planning Authority shall set out at least the date, time and location that the complaint relates to and any identified atmospheric conditions, including wind direction, and include a statement as to whether, in the opinion of the Local Planning Authority, the noise giving rise to the complaint contains or is likely to contain a tonal component.

26.4 The assessment of the rating level of noise immissions shall be undertaken in accordance with an assessment protocol that shall previously have been submitted to and approved in writing by the Local Planning Authority. The protocol shall include the proposed measurement location identified in accordance with the Guidance Notes where measurements for compliance checking purposes shall be undertaken, whether noise giving rise to the complaint contains or is likely to contain a tonal component, and also the range of meteorological and operational conditions (which shall include the range of wind speeds, wind directions, power generation and times of day) to determine the assessment of rating level of noise immissions. The proposed range of conditions shall be those which prevailed during times when the complainant alleges there was disturbance due to noise, having regard to the written request of the Local Planning Authority under condition 26.3, and such others as the independent consultant considers likely to result in a breach of the noise limits.

26.5 Where a dwelling to which a complaint is related is not listed in the tables attached to these conditions, the Developer shall submit to the Local Planning Authority for written approval proposed noise limits selected from those listed in the Tables to be adopted at the complainant's dwelling for compliance checking purposes. The proposed noise limits are to be those limits selected from the Tables specified for a listed location which the independent consultant considers as being likely to experience the most similar background

noise environment to that experienced at the complainant's dwelling. The rating level of noise immissions resulting from the combined effects of the wind turbines when determined in accordance with the attached Guidance Notes shall not exceed the noise limits approved in writing by the Local Planning Authority for the complainant's dwelling.

26.6 The Developer shall provide to the Local Planning Authority the independent consultant's assessment of the rating level of noise immissions undertaken in accordance with the Guidance Notes within 2 months of the date of the written request of the Local Planning Authority for compliance measurements to be made under condition 26.3, unless the time limit is extended in writing by the Local Planning Authority. The assessment shall include all data collected for the purposes of undertaking the compliance measurements, such data to be provided in the format set out in Guidance Note 1(e) of the Guidance Notes. The instrumentation used to undertake the measurements shall be calibrated in accordance with Guidance Note 1(a) and certificates of calibration shall be submitted to the Local Planning Authority with the independent consultant's assessment of the rating level of noise immissions.

26.7 Where a further assessment of the rating level of noise immissions from the wind farm is required pursuant to Guidance Note 4(c), the Developer shall submit a copy of the further assessment within 21 days of submission of the independent consultant's assessment pursuant to condition 25.4 above unless the time limit has been extended in writing by the Local Planning Authority.

Reason: to ensure that, following a complaint, noise levels can be measured to assess whether or not the predicted noise levels set out within the supporting noise assessment have been breached, and where excessive noise is recorded, suitable mitigation are undertaken.

Table 1 – Between 07:00 and 23:00 – Noise limits expressed in dB LA90,10 minute as a function of the standardised wind speed (m/s) at 10 metre height as determined within the site averaged over 10 minute periods.

Location	Standardised wind speed at 10 meter height (m/s) within the site averaged over 10-minute periods.									
	1	2	3	4	5	6	7	8	9	10
Braerathy Lodge	32	32	32	32	32	32	32	32	32	32

Table 2 – Between 23:00 and 07:00 – Noise limits expressed in dB LA90,10-minute as a function of the standardised wind speed (m/s) at 10 metre height as determined within the site averaged over 10 minute periods.

Location	Standardised wind speed at 10 meter height (m/s) within the site averaged over 10-minute periods.									
	1	2	3	4	5	6	7	8	9	10
Braerathy Lodge	32	32	32	32	32	32	32	32	32	32

Table 3 - Coordinate location of the property listed in Tables 1 and 2.

Property	Easting	Northing
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Braerathy Lodge	282307	956157
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Note to Table 3: The geographical coordinate references are provided for the purpose of identifying the general location of dwellings to which a given set of noise limits applies.

Guidance Notes for Wind Farm Noise Conditions

These notes are to be read with and form part of the noise condition. They further explain the condition and specify the methods to be employed in the assessment of complaints about noise immissions from the wind farm. The rating level at each integer wind speed is the arithmetic sum of the wind farm noise level as determined from the best-fit curve described in Guidance Note 2 of these Guidance Notes and any tonal penalty applied in accordance with Guidance Note 3. Reference to ETSU-R-97 refers to the publication entitled "The Assessment and Rating of Noise from Wind Farms" (1997) published by the Energy Technology Support Unit (ETSU) for the Department of Trade and Industry (DTI).

3.1 Guidance Note 1

(a) Values of the LA90, 10 minute noise statistic should be measured at the complainant's property, using a sound level meter of EN 60651/BS EN 60804 Type 1, or BS EN 61672 Class 1 quality (or the equivalent UK adopted standard in force at the time of the measurements) set to measure using the fast time weighted response as specified in BS EN 60651/BS EN 60804 or BS EN 61672-1 (or the equivalent UK adopted standard in force at the time of the measurements). This should be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the equivalent UK adopted standard in force at the time of the measurements). Measurements shall be undertaken in such a manner to enable a tonal penalty to be applied in accordance with Guidance Note 3.

(b) The microphone should be mounted at 1.2 – 1.5 metres above ground level, fitted with a two-layer windshield or suitable equivalent approved in writing by the Local Planning Authority, and placed outside the complainant's dwelling. Measurements should be made in "free field" conditions. To achieve this, the microphone should be placed at least 3.5 metres away from the building facade or any reflecting surface except the ground at the approved measurement location. In the event that the consent of the complainant for access to his or her property to undertake compliance measurements is withheld, the Developer shall submit for the written approval of the Local Planning Authority details of the proposed alternative representative measurement location prior to the commencement of measurements and the measurements shall be undertaken at the approved alternative representative measurement location.

(c) The LA90, 10 minute measurements should be synchronised with measurements of the 10-minute arithmetic mean wind and operational data logged in accordance with Guidance Note 1(d), including the power generation data from the turbine control systems of the wind farm.

(d) To enable compliance with the conditions to be evaluated, the Developer shall continuously log arithmetic mean wind speed in metres per second and wind direction in degrees from north at hub height for each turbine and arithmetic mean power generated by each turbine, all in successive 10-minute periods. Unless an alternative procedure is previously agreed in writing with the Planning Authority, this hub height wind speed, averaged across all operating wind turbines, shall be used as the basis for the analysis. All 10 minute arithmetic average mean wind speed data measured at hub height shall be 'standardised' to a reference height of 10 metres as described in ETSU-R-97 at page 120 using a reference roughness length of 0.05 metres. It is this standardised 10 metre height

wind speed data, which is correlated with the noise measurements determined as valid in accordance with Guidance Note 2, such correlation to be undertaken in the manner described in Guidance Note 2. All 10-minute periods shall commence on the hour and in 10- minute increments thereafter.

(e) Data provided to the Local Planning Authority in accordance with the noise condition shall be provided in comma separated values in electronic format.

(f) A data logging rain gauge shall be installed in the course of the assessment of the levels of noise immissions. The gauge shall record over successive 10-minute periods synchronised with the periods of data recorded in accordance with Note 1(d).

3.2 Guidance Note 2

(a) The noise measurements shall be made so as to provide not less than 20 valid data points as defined in Guidance Note 2 (b).

(b) Valid data points are those measured in the conditions specified in the agreed written protocol under paragraph (d) of the noise condition, but excluding any periods of rainfall measured in the vicinity of the sound level meter. Rainfall shall be assessed by use of a rain gauge that shall log the occurrence of rainfall in each 10 minute period concurrent with the measurement periods set out in Guidance Note 1. In specifying such conditions the Local Planning Authority shall have regard to those conditions which prevailed during times when the complainant alleges there was disturbance due to noise or which are considered likely to result in a breach of the limits.

(c) For those data points considered valid in accordance with Guidance Note 2(b), values of the LA90, 10 minute noise measurements and corresponding values of the 10- minute wind speed, as derived from the standardised ten metre height wind speed averaged across all operating wind turbines using the procedure specified in Guidance Note 1(d), shall be plotted on an XY chart with noise level on the Y-axis and the standardised mean wind speed on the X-axis. A least squares, "best fit" curve of an order deemed appropriate by the independent consultant (but which may not be higher than a fourth order) should be fitted to the data points and define the wind farm noise level at each integer speed.

3.3 Guidance Note 3

(a) Where, in accordance with the approved assessment protocol under paragraph (d) of the noise condition, noise immissions at the location or locations where compliance measurements are being undertaken contain or are likely to contain a tonal component, a tonal penalty is to be calculated and applied using the following rating procedure.

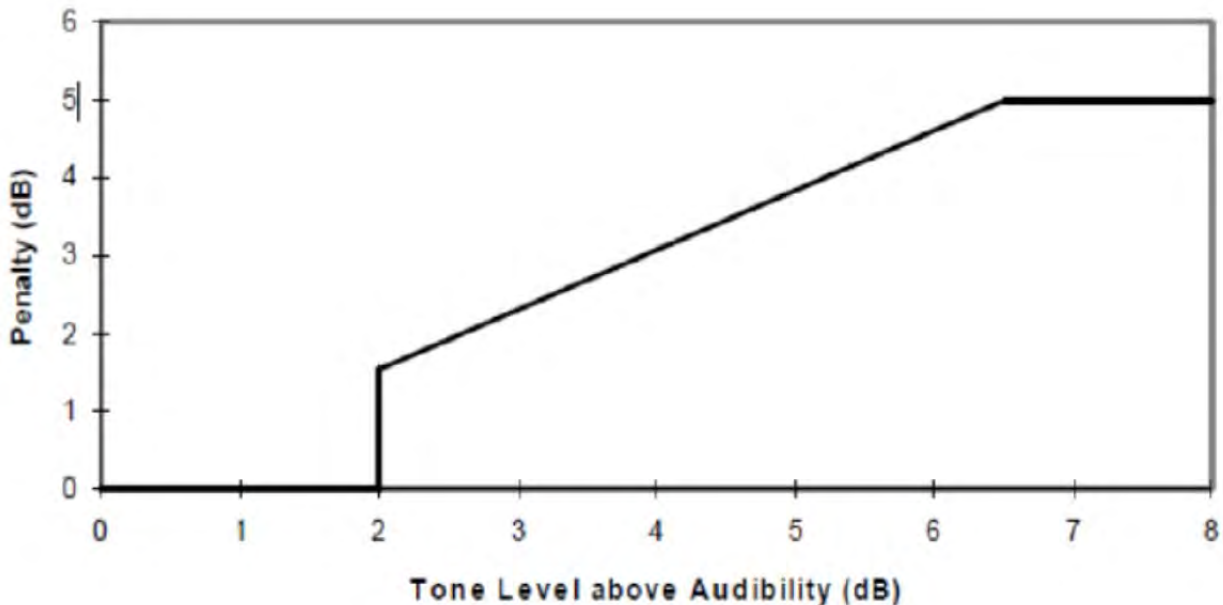
(b) For each 10 minute interval for which LA90, 10 minute data have been determined as valid in accordance with Guidance Note 2 a tonal assessment shall be performed on noise immissions during 2 minutes of each 10 minute period. The 2 minute periods should be spaced at 10 minute intervals provided that uninterrupted uncorrupted data are available ("the standard procedure"). Where uncorrupted data are not available, the first available uninterrupted clean 2 minute period out of the affected overall 10 minute period shall be selected. Any such deviations from the standard procedure, as described in Section 2.1 on pages 104-109 of ETSU-R-97, shall be reported.

(c) For each of the 2 minute samples the tone level above or below audibility shall be calculated by comparison with the audibility criterion given in Section 2.1 on pages 104109 of ETSU-R-97.

(d) The tone level above audibility shall be plotted against wind speed for each of the 2 minute samples. Samples for which the tones were below the audibility criterion or no tone was identified, a value of zero audibility shall be used.

(e) A least squares “best fit” linear regression line shall then be performed to establish the average tone level above audibility for each integer wind speed derived from the value of the “best fit” line at each integer wind speed. If there is no apparent trend with wind speed then a simple arithmetic mean shall be used. This process shall be repeated for each integer wind speed for which there is an assessment of overall levels in Guidance Note 2.

(f) The tonal penalty is derived from the margin above audibility of the tone according to the figure below.



3.4 Guidance Note 4

(a) If a tonal penalty is to be applied in accordance with Guidance Note 3 the rating level of the turbine noise at each wind speed is the arithmetic sum of the measured noise level as determined from the best fit curve described in Guidance Note 2 and the penalty for tonal noise as derived in accordance with Guidance Note 3 at each integer wind speed within the range specified by the Local Planning Authority in its written protocol under paragraph (d) of the noise condition.

(b) If no tonal penalty is to be applied then the rating level of the turbine noise at each wind speed is equal to the measured noise level as determined from the best fit curve described in Guidance Note 2.

(c) In the event that the rating level is above the limit(s) set out in the Tables attached to the noise conditions or the noise limits for a complainant's dwelling approved in accordance with paragraph (e) of the noise condition, the independent consultant shall undertake a further assessment of the rating level to correct for background noise so that the rating level relates to wind turbine noise immission only.

(d) The Developer shall ensure that all the wind turbines in the Development are turned off for such period as the independent consultant requires to undertake the further assessment. The further assessment shall be undertaken in accordance with the following steps:

(e) Repeating the steps in Guidance Note 2, with the wind farm switched off, and determining the background noise (L3) at each integer wind speed within the range requested by the Local Planning Authority in its written request under paragraph (c) and the approved protocol under paragraph (d) of the noise condition.

(f) The wind farm noise (L1) at this speed shall then be calculated as follows where L2 is the measured level with turbines running but without the addition of any tonal penalty:

$$L1 = 10\log [10L2/10 - 10L3/10]$$

(g) The rating level shall be re-calculated by adding arithmetically the tonal penalty (if any is applied in accordance with Note 3) to the derived wind farm noise L1 at that integer wind speed.

(h) If the rating level after adjustment for background noise contribution and adjustment for tonal penalty (if required in accordance with note 3 above) at any integer wind speed lies at or below the values set out in the Tables attached to the conditions or at or below the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (e) of the noise condition then no further action is necessary. If the rating level at any integer wind speed exceeds the values set out in the Tables attached to the conditions or the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (e) of the noise condition then the Development fails to comply with the conditions.

****Footnotes to Developer****

Initiation and Completion Notices

The Town and Country Planning (Scotland) Act 1997 (as amended) requires all Developers to submit notices to the Planning Authority prior to, and upon completion of, Development. These are in addition to any other similar requirements (such as Building Warrant completion notices) and failure to comply represents a breach of planning control and may result in formal enforcement action.

- i. The Developer must submit a Notice of Initiation of Development in accordance with Section 27A of the Act to the Planning Authority prior to work commencing on site.
- ii. On completion of the Development, the Developer must submit a Notice of Completion in accordance with Section 27B of the Act to the Planning Authority.

Accordance with Approved Plans and Conditions

You are advised that Development must progress in accordance with the plans approved under, and any conditions attached to, this permission. You must not deviate from this permission without consent from the Planning Authority (irrespective of any changes that may separately be requested at the Building Warrant stage or by any other Statutory Authority). Any preconditions (those requiring certain works, submissions etc. prior to commencement of Development) must be fulfilled prior to work starting on site. Failure to adhere to this permission and meet the requirements of all conditions may invalidate your permission or result in formal enforcement action.

Flood Risk

It is important to note that the granting of planning permission does not imply there is an unconditional absence of flood risk relating to (or emanating from) the application site. As per Scottish Planning Policy (p.198), planning permission does not remove the liability position of Developers or owners in relation to flood risk.

Septic Tanks & Soakaways

Where a private foul drainage solution is proposed, you will require separate consent from the Scottish Environment Protection Agency (SEPA). Planning permission does not guarantee that approval will be given by SEPA and as such you are advised to contact them direct to discuss the matter (01349 862021).

Local Roads Authority Consent

In addition to planning permission, you may require one or more separate consents (such as dropped kerb consent, a road openings permit, occupation of the road permit etc.) from Community Services (Roads) prior to work commencing. These consents may require additional work and/or introduce additional specifications and you are therefore advised to contact your local TECS Roads office for further guidance at the earliest opportunity. Failure to comply with access, parking and drainage infrastructure requirements may endanger road users, affect the safety and free-flow of traffic and is likely to result in enforcement action being taken against you under both the Town and Country Planning (Scotland) Act 1997 and the Roads (Scotland) Act 1984. Further information on the Council's roads standards and application forms and guidance notes for access-related consents can be found at: <http://www.highland.gov.uk/yourenvironment/roadsandtransport>

Mud and Debris on Road

Please note that it is an offence under Section 95 of the Roads (Scotland) Act 1984 to allow mud or any other material to be deposited, and thereafter remain, on a public road from any vehicle or Development site. You must, therefore, put in place a strategy for dealing with any material deposited on the public road network and maintain this until Development is complete.

Construction Hours and Noise-Generating Activities

You are advised that construction work associated with the Development (incl. the loading/unloading of delivery vehicles, plant or other machinery), for which noise is audible at the boundary of the application site, should not normally take place outwith the hours of 08:00 and 19:00 Monday to Friday, 08:00 and 13:00 on Saturdays or at any time on a Sunday or Bank Holiday in Scotland, as prescribed in Schedule 1 of the Banking and Financial Dealings Act 1971 (as amended). Work falling outwith these hours which gives rise to amenity concerns, or noise at any time which exceeds acceptable levels, may result in the service of a notice under Section 60 of the Control of Pollution Act 1974 (as

amended). Breaching a Section 60 notice constitutes an offence and is likely to result in court action. If you wish formal consent to work at specific times or on specific days, you may apply to the Council's Environmental Health Officer under Section 61 of the 1974 Act. Any such application should be submitted after you have obtained your Building Warrant, if required, and will be considered on its merits. Any decision taken will reflect the nature of the Development, the site's location and the proximity of noise sensitive premises. Please contact env.health@highland.gov.uk for more information.

****Condition 21 – Specification for archaeological mitigation****

Summary

(a) This specification details the work required to fulfil the archaeological condition of this planning consent. It represents the minimum standard of work necessary to meet the needs of this condition and should be supplied to tendering archaeological contractors.

(b) This project may impact on valuable features of historic and archaeological importance. In view of the archaeological sensitivity and potential of the site, HET advised that an archaeological evaluation be undertaken in advance of development. The implementation of this brief will meet the concerns raised.

(c) This specification is for an evaluation to determine the archaeological baseline of the application site. If significant deposits are encountered, recommendations for further measures necessary to mitigate the impact of the development should be made.

(d) This specification has been produced for the applicant who will be responsible for the work and all costs incurred, including any tendering and contractual arrangements. This brief must be read with reference to the Highland Council Standards for Archaeological Work document that sets out in detail who is responsible for what, as well as the terms of reference, objectives, method, monitoring and reporting arrangements. The Standards for Archaeological Work is available on our webpage at http://www.highland.gov.uk/downloads/file/1022/standards_for_archaeological_wok .

Archaeological Background

Section A13.9 of the cultural heritage chapter of the Strathy South Wind Farm environmental statement addendum sets out a proposed set of archaeological works. In this case a targeted watching brief (controlled strip) is considered appropriate and proportionate to mitigate the impact of the development.

Objectives

To identify and record any features or objects of archaeological importance that could be damaged or destroyed by this development, while minimising any delays or disruption to the development project.

Methodology

All fieldwork must be informed by the work undertaken to inform the Strathy South Environmental Statement and Addendum. The desk-based assessment will be updated and referred to where necessary.

(a) Controlled Strip

Archaeological monitoring is required during all site groundworks for this application, including all site clearance work, access roads and service arrangements. Topsoil stripping (using a smooth-bladed bucket) of the entire application site must be monitored and guided by an archaeologist so that any buried archaeological features can be identified, recorded and/or appropriate mitigation put in place to ensure their preservation. All recovered

artefacts and ecofacts must be subject to a programme of postexcavation analysis and the results incorporated into a final report.

(b) Fieldwork – Controlled Strip

Archaeological monitoring is required during all site groundworks in areas where there is considered potential for archaeological remains, features or deposits to be present. The areas subject to archaeological monitoring will be set out in the Written Scheme of Investigation for approval of the Planning Authority.

(c) Topsoil Stripping

Topsoil stripping (using a smooth-bladed bucket) of the agreed areas must be monitored and guided by an archaeologist so that any buried archaeological features can be identified, recorded and/or appropriate mitigation put in place to ensure their preservation.

(d) Recovered Artefacts

All recovered artefacts and ecofacts must be subject to a programme of postexcavation analysis and the results incorporated into a final report.

Minimum Standards

The Historic Environment Practitioner must refer to the minimum standard requirements as laid out in the HC Standards for Archaeological Work. This brief itself is not comprehensive or definitive - tendering Historic Environment Practitioners will need to determine for themselves the methodology that will deliver the required product. This should be laid down in a Project Design and agreed with HET in advance of the start of site works. The start of archaeological work will be subject to the submission and approval of this document.

Schedule & Monitoring

The Historic Environment Practitioner is responsible for agreeing arrangements for monitoring with HET staff. We will monitor projects as necessary to ensure that minimum standards are met. Prior notice of fieldwork starting dates, with contact names, telephone numbers and arrangements for access must be given to HET in advance of the start of works. The Historic Environment Practitioner must make a short progress report (by telephone) to HET for every week of fieldwork undertaken. Any unexpectedly significant or complex discoveries, or other unexpected occurrences which might significantly affect the archaeological work and/or the development must be notified by the Historic Environment Practitioner immediately to the applicant and HET. The finds or features must be left in situ until arrangements have been agreed for safeguarding or recording them. In the meantime work may continue on other areas of the site.

Products

Following completion of the fieldwork, an archive and report will be produced and disseminated according to the standards set out in the HC Standards for Archaeological Work. The report should describe the nature of the field work undertaken; the conditions and limitations within which the work was carried-out; the results that were obtained and recommendations for mitigation and/or further work, as appropriate. Further work may include additional fieldwork, post-excavation analysis, specialist studies and publication.

Works

All work will be undertaken according to the Code of Conduct, Standards and Guidance of the Chartered Institute for Archaeologists.

APPENDIX 2: Table of relevant Highland-wide local development plan policies

Policy:		Provisions:
28	Sustainable Development	<p>Developments which promote and enhance the social, economic and environmental wellbeing of the people of Highland will be supported.</p> <p>Criteria are provided to assess the extent to which a proposal meets the above objective, including impacts on: amenity; non-renewable resources; natural and built environment resources; and sensitivity of siting.</p> <p>Proposals must also be compliant with the council's Sustainable Design Guide: Supplementary Guidance.</p> <p>The policy concludes that "developments that will have significant adverse effects will only be supported if no reasonable alternatives exist, if there is a demonstrable over-riding strategic benefit or if satisfactory overall mitigating measures are incorporated."</p>
29	Design Quality and Place Making	Proposals should be designed to make a positive contribution to the visual quality of the place in which it is to be located.
31	Developer Contributions	Potential adverse impacts of any proposal may be mitigated and could be addressed by use of a condition rather than a planning obligation.
51	Trees and Development	Provides protection for existing trees and provision to require compensatory planting to enhance the setting of any proposal.
52	Principle of Development in Woodland	<p>Gives a strong presumption in favour of protecting existing valuable woodland resources. Proposals removing such woodland will only be supported where they offer clear and significant public benefit.</p> <p>All proposals affecting woodland will be assessed against conformity with the Scottish Government's Policy on Control of Woodland Removal.</p>
55	Peat and Soils	<p>Proposals should demonstrate how they have avoided unnecessary disturbance, degradation or erosion of peat and soils.</p> <p>Unacceptable disturbance of peat will not be permitted unless it is shown that the adverse effects of such disturbance are clearly outweighed by social, environmental or economic benefits.</p> <p>Where development on peat is unavoidable then a peatland management plan may be required.</p>
57	Natural, Built and Cultural Heritage	<p>Proposals will be assessed taking into account the level of importance and type of heritage features, the form and scale of development, and any impact on the feature and its setting.</p> <p>For features of local/regional importance (including sites and monuments record archaeological sites; and wild areas) proposals must not have an unacceptable impact on the natural environment, amenity and heritage resource.</p>

		<p>For features of national importance (including scheduled monuments; national nature reserves; sites of special scientific interest; and national scenic areas) proposals must not compromise the natural environment, amenity and heritage resource. Where there may be any significant adverse effects, these must be clearly outweighed by social or economic benefits of national importance. The proposal must also be shown to support communities in fragile areas who are having difficulties in keeping their population and services.</p> <p>For features of international importance (SPAs; SACs; and Ramsar sites) proposals likely to have a significant effect on a site, either alone or in combination with other plans or projects, require an appropriate assessment.</p> <p>Where it is unclear if a proposal would affect the integrity of a site, the development will only be allowed if there is no alternative solution and there are imperative reasons of overriding public interest.</p>
58	Protected Species	<p>Development that is likely to have an adverse effect, individually and/or cumulatively, on European Protected Species will only be permitted where: there is no satisfactory alternative; it is required for preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment; and it will not be detrimental to the maintenance of the population of species concerned at a favourable conservation status in their natural range.</p> <p>Development that is likely to have an adverse effect, individually and/or cumulatively, on protected bird species will only be permitted where: there is no other satisfactory solution; and that it is required in the interests of public health or public safety.</p> <p>Development that is likely to have an adverse effect, individually and/or cumulatively, on other protected animals and plants will only be permitted where it is required for preserving public health or public safety.</p>
59	Other Important Species	<p>Regard will be taken to the presence of and any adverse effects of proposals individually, or cumulatively, on other important species (those listed in Annexes II and V of the EC Habitats Directive; priority species listed in the UK and Local Biodiversity Action Plans; and species included on the Scottish Biodiversity List).</p> <p>Conditions will be used to ensure any harm of these species is avoided.</p>
60	Other Important Habitats and Article 10 Features	<p>Seeks to safeguard the integrity of features of the landscape which are of major importance because of their linear and continuous structure or combination as habitat “stepping stones” for the movement of wild fauna and flora.</p>
61	Landscape	<p>Proposals should be designed to reflect the landscape characteristics</p>

		and special qualities identified in the Landscape Character Assessment of the area in which they are proposed.
64	Flood Risk	Proposals should avoid areas susceptible to flooding and promote sustainable flood management.
67	Renewable Energy Developments	<p>Renewable energy proposals should be well related to the source of the primary resource needed for their operation. Consideration will also be given to the contribution towards meeting renewable energy generation targets; and any positive or negative effects a proposal is likely to have on the local and national economy.</p> <p>Proposals will be assessed against the provisions of the development plan; the Highland Renewable Energy Strategy and Planning Guidelines (and The Onshore Wind Energy Supplementary Guidance); and other material considerations, including proposals able to demonstrate significant benefits including by making effective use of existing and proposed infrastructure and facilities.</p> <p>Subject to balancing the considerations, and taking account of any mitigation, proposals will be supported where it is satisfied that they are located, sited and designed such that they will not be significantly detrimental overall, either individually or cumulatively with other developments.</p>
68	Community Renewable Energy Developments	The tests of policy 67 will apply. However, where a community wishes to take a share in a larger project, then where it is the only community significantly impacted by the proposal then that will be taken as a material consideration.
72	Pollution	Potential pollution (noise, air, water, light) should be appropriately avoided and if necessary mitigated.
77	Public Access	Where a proposal affects a route in a Core Paths Plan or an access point to water, or significantly affects wider access rights, then it will need to: retain the existing path or access point; or ensure alternative access provision that is no less attractive, is safe and convenient for public use, and does not damage or disturb species or habitats.
78	Long Distance Routes	Long distance routes and their settings (including the National Cycle Network along the A836) shall be safeguarded and sought to be enhanced.

APPENDIX 3: Schedule of Documents

Core Documents

Scoping documents

CD_1.1 Strathy South EIA Scoping Report 2004

Section 36 submission (2007)

CD_2.1 Strathy South ES 2007 Vol 1 Non-Technical Summary

CD_2.2 Strathy South ES 2007 Vol 2 Main Report

CD_2.3 Strathy South ES 2007 Vol 3 Figures

CD_2.4 Strathy South ES Vol 4 Technical Appendices

CD_2.5 Strathy South ES Confidential Documents

Re-consultation letter (September 2012)

CD_3.1 Strathy South Reconsultation Letter

Section 36 Addendum documentation (2013)

CD_4.1 Strathy South ES Addendum Vol 1 Non-Technical Summary

CD_4.2 Strathy South ES Addendum Vol 2 Main Report

CD_4.3 Strathy South ES Addendum Vol 3 Figures

CD_4.4 Strathy South ES Addendum Vol 4 Technical Appendices

CD_4.5 Strathy South ES Addendum Confidential ES documents

CD_4.6 Strathy South ES Addendum Access Route Review

CD_4.7 Strathy South ES Addendum Planning Statement

Further information report (2014)

CD_5.1 T39 Further Information Report for Strathy South 2014 (main report and figures)

CD_5.2 T39 Further Information Report for Strathy South 2014 (technical appendices)

The Highland Council reports, minutes and guidance

CD_6.1 THC North Planning Applications Committee 10 June 2014, Report by Head of Planning and Building Standards

CD_6.2 THC Objection_20140610

CD_6.3 THC cover email to ECDU_20140610

CD_6.4 THC Committee Minutes

National Planning Policy and guidance

CD_7.1 NPF3: National Planning Framework for Scotland, 2014

CD_7.2 Scottish Planning Policy 2014

CD_7.3 PAN 1/2013: Environmental Impact Assessment

CD_7.4 PAN 60: Planning for Natural Heritage

- CD_7.5 PAN 73: Rural Diversification
- CD_7.6 The Scottish Government's Online Renewables Advice - Onshore Wind Turbines (last updated Dec 2013)
- CD_7.7 Circular 01/2010: Planning Agreements
- CD_7.8 Circular 03/2011: The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011
- CD_7.9 Circular 04/1998: The Use of Conditions and Planning Permission
- CD_7.10 Circular 08/2007: The Environmental Impact Assessment (Scotland) Regulations 1999
- CD_7.11 Circular 12/1996: The Town and Country Planning (Scotland) Act 1972 Planning Agreements

The development plan and supplementary planning guidance

- CD_8.1 Highland-wide Local Development Plan 2012
- CD_8.2 Onshore Wind Energy Interim Supplementary Guidance 2012
- CD_8.3 The Highland Renewable Energy Strategy and Planning Guidelines ("HRES") (May 2006)

Energy policy

- CD_9.1 2030 framework for climate and energy policies (European Commission)
- CD_9.2 The UK Annual Energy Statement (October 2014)
- CD_9.3 The 2020 Routemap for Renewable Energy in Scotland
- CD_9.4 The 2020 Routemap for Renewable Energy in Scotland – Update (December 2013).

Statements of agreement

- CD_10.1 Statement of Agreement Policy

Applicant's documents

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The John Muir Trust's documents

- JMT/H/1 The Trust's Wild Land Policy.
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Mr Simon Lee's documents

- Appendix 1 Climate change and upland peat loss implications for policy.
- Appendix 2 Not used.
- Appendix 3 Reducing emissions in Scotland 2014 – progress report.

- Appendix 4 IUCN UK Committee Peatland Programme – Peatbogs, Climate and Climate Change.
- Appendix 5 Global humanitarian Forum – the Anatomy of a Silent Crisis.

Corrigendum to the Report

The Reporter confirmed a small number of typographical errors which were identified in the public local inquiry report after completion and hand-over to Ministers, prior to determination. He advised that they do not change the meaning or understanding of the reasoning of the report. Ministers agree.

The corrections to the text confirmed by the Reporter are as follows:

Page 3 / Description of the Development, and Page 14 paragraph 1.9

Text from report (with typographical errors highlighted in red)

- 39 wind turbines, with a hub height of 83m, tip height of up to 135m high, and maximum rotor diameter of 104m
- use of 3.4 MW turbines
- reinforced concrete foundations for each turbine, typically 16-20m in diameter by 2m to 3m deep (4.758 to 5.734ha of permanent land take)
- access from the A836 public road via the access to the Strathy North Wind Farm
- 36.5 kilometres of access tracks
- 18 stream crossings
- a single switching station
- 4 anemometry masts at 90m high
- cabling trenches estimated at 42km in length
- 4 borrow pits
- 1 site compounds; 1 lay down area; fewer crane pads
- a 100m by 100m concrete batching plant.

Correction

- 39 wind turbines, with a hub height of 83m, tip height of up to 135m high, and maximum rotor diameter of 104m
- use of 3.4 MW turbines
- reinforced concrete foundations for each turbine, typically 16-20m in diameter by 2m to 3m deep (5.734 to 4.758 hectares of permanent land take)
- access from the A836 public road via the access to the Strathy North Wind Farm
- 32 kilometres of access tracks
- 15 stream crossings
- a single switching station
- 3 anemometry masts at 90m high
- cabling trenches estimated at 42km in length
- 4 borrow pits
- 1 site compound; 1 lay down area; 1 crane pad for each turbine
- a 100m by 100m concrete batching plant.

Page 46 paragraph 4.18

Text from report (with typographical errors highlighted in red)

The Trust asked Dr Steve **Carter** of the Wildland Research Institute at Leeds University to produce a plan showing the combined visibility of Strathy South and Strathy North wind farms. The visual effects extend to all four nearby wild land areas (35, 36, 38 and 39). This illustration does not consider other relevant wind farms still in the consenting process – Strathy Wood, Sallachy, **GeInccassley**, and **Greag** Riabhach.

Correction

The Trust asked Dr Steve Carver of the Wildland Research Institute at Leeds University to produce a plan showing the combined visibility of Strathy South and Strathy North wind farms. The visual effects extend to all four nearby wild land areas (35, 36, 38 and 39). This illustration does not consider other relevant wind farms still in the consenting process – Strathy Wood, Sallachy, Glencassley, and Creag Riabhach.

Page 204, sentence from paragraph 5.591

Text from report (with typographical errors highlighted in red)

- The virtually certain **Joss** of the breeding pair that uses **REDACTED**

Correction

- The virtually certain loss of the breeding pair that uses **REDACTED**

Page 254, sentence from paragraph 6.39

Text from report (with typographical errors highlighted in red)

SNH confirmed in its response of **5** January 2015 that any objection in relation to the impact on the Caithness and Sutherland SAC was withdrawn.

Correction

SNH confirmed in its response of 8 January 2015 that any objection in relation to the impact on the Caithness and Sutherland SAC was withdrawn.