



T: 0131 244 7589

E: planning.decisions@gov.scot

Jenny Hazzard
Head of Environmental Planning
ITPEnergised

By email only to:

Jenny.hazzard@itpennergised.com

Our ref: CIN-ORK-001

21 December 2021

Dear Jenny Hazzard,

DECISION NOTICE

TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997

PLANNING APPLICATION 20/037/TPPMAJ: Erect 6 wind turbines (maximum height 149.9 metres, maximum wind farm capacity 50 Mw), erect a meteorological mast (maximum height 90 metres) and a substation, create an access and construct access tracks, and associated infrastructure, at Quanterness (land near), St Ola, Orkney ('the proposed development')

1. This letter contains Scottish Ministers' decision on the above planning application submitted to Orkney Islands Council by ITPEnergised on behalf of Orkney Islands Council on 31 January 2020.
2. The application was called in for Scottish Ministers' determination on 24 March 2020. This was in view of the proposal raising matters which are of national importance in the context of expectations set out in National Planning Framework 3 for the Pentland Firth and Orkney Waters area and the need for an enhanced high voltage energy transmission network, and to avoid any conflict of interest that could have arisen in the event that Orkney Islands Council determined the application.
3. The application was considered by means of written submissions and unaccompanied site inspections (carried out on 12-14 September 2020) by Christopher Warren, a Reporter appointed by Scottish Ministers for that purpose.
4. A report with the Reporter's recommendation was issued to Scottish Ministers on 19 January 2021. The applicant subsequently submitted further information (regarding the proposed interconnector between Orkney and the Scottish mainland

and the associated needs case for it), and on 2 July 2021 the case was referred back to the Reporter for further advice and an updated recommendation. The Reporter issued an Addendum Report on 5 August 2021. A copy of the Reporter's report ('the Report') and a copy of the Reporter's addendum report ('the Addendum Report') are attached.

Reporter's Recommendation and Scottish Ministers' Decision

5. The Reporter has recommended that planning permission be refused. Scottish Ministers have carefully considered all the evidence presented and the Reporter's conclusions and recommendation. Scottish Ministers disagree with the Reporter's conclusions and recommendation and grant planning permission subject to conditions for the proposed development, for the reasons given below. All references to paragraph and chapter numbers, unless otherwise stated, are to the Report.

The Proposed Development and Site

6. The proposed development would principally comprise of six wind turbines with a maximum blade tip height of 149.9m. The total generating capacity for the site would be approximately 28.8MW, depending on the final model of turbine selected.

7. Other components of the proposed development include:

- a temporary construction compound;
- permanent crane hard-standings;
- temporary laydown areas;
- new and upgraded on-site access tracks and a new junction on the A965;
- underground cabling between turbines;
- on-site substation and maintenance building; and
- a permanent meteorological monitoring mast (90 metres maximum height).

8. The proposed development would be located on land approximately 2.7 kilometres north-west of Kirkwall town centre, on Orkney's mainland. Part of the application site would be less than two kilometres from Kirkwall's settlement boundary. The site covers a total area of 172 hectares and comprises relatively flat pasture farmland, located on a modest peninsula with the site bound by the coastline to the north.

The Reporter's Reports

9. Chapter 1 of the Report provides information on the proposed development and site, the environmental impact assessment, consultation responses and representations. Chapter 2 summarises and discusses the policy context. Main issues are considered in the subsequent topic-based chapters, with other relevant issues being discussed in Chapter 7. Chapter 8 contains the Reporter's overall conclusions and recommendations.

10. In the Addendum Report, Chapter 1 provides background information; Chapter 2 discusses the implications of the further submissions and includes a recommendation. The Reporter confirms that having taken account of the applicant's

further submissions, he finds no basis to alter the recommendation (that planning permission should be refused) set out in paragraphs 8.22 to 8.26 of his original report. He relies on what he has outlined there without amendment.

Legal and policy context and determining issues

11. Section 25 of the Town and Country Planning (Scotland) Act 1997 requires Ministers to determine planning applications in accordance with the development plan unless material considerations indicate otherwise. In this case, the development plan consists of the Orkney Local Development Plan 2017 ('the LDP') and accompanying supplementary guidance.

12. Ministers agree with the Reporter's summaries of the relevant provisions of the development plan, national planning policy, and other relevant national and council guidance and policy, provided in Chapter 2 of the Report, with the exception of paragraphs 8.7 and 8.8 which do not reflect the current national policy position. The Reporter refers in paragraph 8.8 to revisions to Scottish Planning Policy published on 18 December 2020. Those revisions were subsequently quashed in July 2021 following a legal challenge at the Court of Session and Scottish Planning Policy has reverted to its 2014 form.

13. A draft of the fourth National Planning Framework (NPF4) was published for consultation on 10 November 2021. Ministers give it limited weight in the determination of this application given its consultation draft status. National Planning Framework 3 and Scottish Planning Policy will remain in force until NPF4 is adopted.

Environmental Impact Assessment

14. The determination of this application is subject to the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 ('the EIA Regulations'). The Reporter was satisfied, and Ministers agree, that the submitted EIA Report; further environmental information (which was treated as 'additional information' under the terms of the EIA Regulations) and accompanying material enable a reasoned conclusion on the environmental effects of the scheme to be reached. Scottish Ministers have taken this information into account when considering this application.

15. The Report contains a summary of the findings of the EIA Report and the comments received on it from consultees and made in representations. Together, these form summaries of the environmental information and the results of the consultations and information gathered pursuant to Parts 5 and 6 of the EIA Regulations and how those results have been incorporated or addressed. Appendix 2 of the Report provides a summary of the arrangements taken to ensure the public had the opportunity to participate in the decision-making procedures. The Report describes the various mitigation and monitoring measures proposed and required, and these are also described in the EIA Report Chapter 17: *Schedule of Environmental Commitments*. Ministers agree with, and adopt as their own for the purposes of this decision notice, those summaries and descriptions and the Reporter's reasoned conclusion on the significant effects of the proposed development on the environment, which Ministers are satisfied is still up to date.

Reporter's findings and conclusions

16. Having regard to the provisions of the development plan and other material considerations, Scottish Ministers agree with the Reporter that the main issues in this application relate to the impact upon the historic environment; landscape and visual effects; residential amenity impacts; the benefits of the proposed development and socio-economic considerations.

17. Ministers agree with the Reporter's findings regarding the impacts of the proposed development on cultural heritage and the historic environment, as set out in Chapter 3 of the Report, but disagree with some of the Reporter's conclusions regarding compliance with development plan policy on this matter. Specifically, Ministers agree with the Reporter that (paragraph 3.97) the proposed development would fail to preserve the setting of the Wedeford Hill and Cuween Hill chambered cairns, both of which are scheduled monuments. Ministers also agree with the Reporter that this would conflict with criterion d of LDP Policy 7, part (D), which presumes against development which would have a significant adverse effect upon the historic environment.

18. Ministers agree with the Reporter (paragraph 8.11) that LDP Policy 8 ('Historic environment and cultural heritage'), part B iv presumes against permitting development which would have an adverse effect on the setting of scheduled monuments, unless there are exceptional circumstances (consistent with the provisions of SPP paragraph 145), there is no practical alternative site, and there are imperative reasons of overriding public need. Ministers consider that the climate emergency, national energy and carbon reduction targets, and the indirectly related needs case for an electrical interconnector collectively represent sufficiently exceptional circumstances and overriding public need to justify these significant adverse setting impacts. Ministers agree with the Reporter that (paragraph 8.13) the applicant has made a clear effort to bring forward a proposal in a relatively less sensitive location in comparison to many other locations across the Orkney Islands. The site avoids direct impacts upon national and international designations and other nationally important environmental interests. Ministers also agree with the Reporter (same paragraph) that given the abundance and extent of such designations and interests across the Orkney Islands this is noteworthy, but this does not lessen the importance of the setting of scheduled monuments which are not accounted for by the spatial framework. However Ministers are satisfied that there is no practical alternative site, especially in the context of the Global Climate Emergency, the Climate Change (Scotland) Act 2009 targets and the Scottish Government targets for renewable energy generation, and the needs case requirement (as set by Ofgem) for 135MW of new energy projects on Orkney regarded by December 2022 as being likely to be developed. Ministers also consider that the proposed development complies with Part A of Policy 8, as the loss of significance of the scheduled monuments would be outweighed by the benefits of the proposed development. Consequently, Ministers disagree with the Reporter's finding in paragraph 3.97 that the proposed development would be contrary to the provisions of LDP Policy 8.

19. Ministers agree with the Reporter's findings and conclusions regarding landscape and visual impacts as set out in Chapter 4, including the conclusions (set out in paragraphs 4.46 - 4.47) that the proposed development would result in

significant adverse landscape and visual impacts which would be most pronounced in areas surrounding the Bay of Firth. The proposed development's landscape and visual effects would be apparent from the A965, which is the principal road across the mainland linking its two main settlements, Stromness and Kirkwall via Finstown, and it would significantly detract from visual amenity along a considerable section of this route and the area surrounding it. Recreational receptors and residents in the vicinity of the Bay of Firth would also experience significant adverse effects. Ministers agree with the Reporter that the proposed development would be contrary to LDP Policy 7 given that significant adverse effects would arise. Ministers also agree that (paragraph 4.22) whilst Policy 7 seeks to avoid significant adverse landscape and visual impacts would arise, a necessary qualification of that position is provided by the supplementary guidance; in recognition that wind farms inevitably have some significant adverse effects, such impacts need to be balanced against the benefits of a development. Ministers also agree that it is in the proposed development's favour that, as confirmed by the EIA report, no designated or protected landscapes would be significantly affected, as noted in paragraph 4.6. Ministers agree that the proposed development would also be contrary to part G of LDP Policy 9, as it would have an adverse impact upon the landscape and seascape.

20. Ministers agree with the Reporter's findings and conclusions regarding residential amenity, as set out in Chapter 5, including the conclusion (at paragraph 5.24) that the impact of the proposed development at four properties (namely 1 and 2 Quanterness Cottages, Quanterness Farm and Harwood) would be contrary to LDP Policy 7 part C (ii), which requires that conflict with adjoining uses should be avoided; and part (D)(i)(a) which seeks to safeguard amenity. It would also be contrary to the Energy Supplementary Guidance, Development Criterion 1 which seeks to safeguard quality of life and residential amenity. This is due to the degree to which residential visual amenity would be undermined, with the wind farm overwhelming the principal outlook from these properties. At these four properties, the residential visual amenity threshold (defined in paragraphs 5.4 and 5.5) would be met or exceeded. Ministers agree with the Reporter (paragraph 5.13) that residential amenity would be severely compromised at these properties, but also that the acceptability of effects on residential visual amenity is a matter for the planning balance. Ministers acknowledge that Quanterness Farm is occupied by the landowner of the application site who is has a commercial interest in the proposed development, and who is therefore likely to have reduced sensitivity to the development. However, Ministers agree with the Reporter (paragraph 5.25) that this does not address the existence of, or eliminate the need to consider, the adverse effects upon that property completely. Ministers also understand that 1 and 2 Quanterness Cottages and Harwood are owned by the application site landowner, but are occupied by tenants, so (as stated in paragraph 5.6) this ownership link does not meaningfully offset the impacts identified.

21. Ministers agree with the Reporter that subject to conditions, the proposed development would not result in any significant adverse shadow flicker or noise effects upon residential amenity.

22. The Reporter sets out his conclusions on the benefits of the proposed development and socio-economic considerations in paragraphs 6.13 – 6.30. Ministers agree with these conclusions, including that the proposed development is

supported in principle by local development plan Policy 7, which supports renewable energy development subject to appropriate environmental safeguards. These safeguards are provided by the wider provisions of this and other policies and supplementary guidance. This in-principle support also extends across national planning and energy policy. Ministers attach weight to the proposed development's renewable energy generating capacity and the associated carbon savings it would provide.

23. Ministers agree with the Reporter (paragraph 6.29) that whilst direct socio-economic benefits would be relatively modest beyond the construction phase, the net economic benefit of the proposed development (with economic benefits at the local and national scales) would weigh in favour of the proposals. Ministers also agree that (paragraph 6.30) those direct benefits attract policy support, and there would not be any adverse socio-economic effects, including upon tourism and recreation, which would lead to any policy tension.

24. Ministers agree with the Reporter that the wider potential benefit of the development relates to supporting the needs case for an electrical interconnector between Orkney and mainland Scotland. Ministers agree that the proposed development would not itself secure the delivery of an interconnector, and the interconnector's potential benefits cannot be attributed to the proposed development directly (paragraph 2.21 of the Addendum Report). Ministers also agree that (paragraph 2.22 of the Addendum Report) granting permission for the proposed development would not in isolation ensure that the interconnector needs case requirements would be met.

25. However, Ministers also agree with the Reporter (paragraphs 6.18 and 6.19) that the importance of an interconnector, and the benefits which could be derived from it, are recognised across national policy, including National Planning Framework 3 and the National Islands Plan, and securing an interconnector is a priority of NPF3. In addition, Ministers agree with the Reporter that refusal of planning permission would represent a setback which could ultimately be fatal for the interconnector needs case. Ministers also agree that (paragraph 2.24 of the Addendum Report) the further submissions indicate that the three council wind farm proposals, including the proposed development at Quanterness, are each seen to be critical in being able to satisfy Ofgem's interconnector needs case requirements, and that if this ultimately proves to be accurate, the implications of refusing permission for the proposed development would result in the needs case not being adequately made (unless Ofgem was to revise its requirements). In view of these points, Ministers consider the *contribution* the proposed development would make (if permitted) to the interconnector needs case would be a significant benefit, especially in view of the Global Climate Emergency. Ministers give this significant benefit substantial weight as a material consideration.

26. Ministers agree with the Reporter's findings and conclusions regarding other relevant issues, as detailed in Chapter 7.

27. As discussed in paragraph 18 above, Ministers do not agree with the Reporter that the proposed development would be contrary to LDP Policy 8. However, Ministers do agree with the Reporter (paragraph 8.21) that the proposed

development would be contrary to the relevant provisions of the development plan overall.

28. Scottish Planning Policy sets out a presumption in favour of development that contributes to sustainable development. In paragraph 29 it sets out a series of principles that should guide decisions. In paragraph 32 it states that for proposals that do not accord with up-to-date development plans, the primacy of the plan is maintained and SPP and the presumption in favour of development will be material considerations. Ministers consider that the proposed development would contribute to sustainable development in some respects (and therefore benefits from this presumption) given its net economic benefit, support for the delivery of energy infrastructure, and support for climate change mitigation. Ministers do however agree with the Reporter's finding (in paragraph 8.8) that the development plan is not out of date, so the presumption is not elevated by paragraph 33 of SPP to become a significant material consideration in this case.

29. Ministers consider that the contribution to the interconnector needs case would be a significant benefit of the proposed development, as discussed in paragraph 25 above. Ministers give this substantial weight as a material consideration. Adding this to the other benefits of the proposed development, Ministers consider that the material considerations warrant granting permission for the proposed development as a departure from the development plan. Ministers consider that whilst the proposed development would have significant adverse impacts on the landscape and seascape, cultural heritage, and residential and visual amenity as discussed above, its benefits outweigh those impacts.

30. Ministers note that the application sought in-perpetuity consent for the wind farm. However, Ministers agree with the Reporter that (paragraph 7.14) the starting point in the development plan, set by LDP Policy 7, is that planning permission for all wind energy developments should be time-limited. The policy aligns with paragraph 170 of Scottish Planning Policy, which recognises that whilst areas identified for wind farms should be suitable for use in perpetuity, consents may be time-limited. Ministers agree with the Reporter (paragraph 7.15) that there is not clear justification to depart from LDP Policy 7(D)(v), and agree that a 25-year time limit is appropriate in this case.

31. Ministers consider it important to prevent a situation whereby the Final Needs Case fails to receive Ofgem's final approval but the proposed development is still constructed. Such a situation would mean the contribution to the needs case (which as discussed above is being given substantial weight as a benefit) ultimately proved ineffectual whereas the adverse impacts of the proposed development would still arise. Permission is therefore subject to a condition which prohibits the commencement of development unless and until Ofgem have approved the Final Needs Case for the interconnector project.

Formal Decision

32. Accordingly Scottish Ministers hereby grant planning permission for the proposed development subject to the conditions listed in the schedule attached as Appendix 1.

33. The Scottish Ministers direct that section 58(1) of the Town and Country Planning (Scotland) Act 1997 is not to apply with regard to this planning permission and that planning permission is to lapse on the expiry of a period of ten years from the date of this permission if there has been no development within that period. This direction is made to reflect the fact that a grid connection is anticipated to not be available until at least 2025.

34. This decision of Scottish Ministers is final, subject to the right conferred by Sections 237 and 239 of the Town and Country Planning (Scotland) Act 1997 of any person aggrieved by the decision to apply to the Court of Session within 6 weeks of the date of this letter. If such an appeal is made, the Court may quash the decision if satisfied that it is not within the powers of the Act, or that the appellant's interests have been substantially prejudiced by a failure to comply with any requirements of the Act, or of the Tribunals and Inquiries Act 1992, or any orders, regulations or rules made under these Acts.

35. A copy of this letter and the Reporter's reports have been sent to the planning authority. Those parties who lodged representations will also be informed of the decision.

Yours sincerely



Fiona Simpson
Chief Planner

Appendix 1: Schedule of Conditions

1. Site Decommissioning, Restoration and Aftercare

- (1) The wind turbines shall be decommissioned and cease to generate electricity by no later than the date falling twenty-five years from the First Export Date, and the restoration of the site shall be completed within three years thereafter and shall be in accordance with the details submitted and approved under the terms of this condition.
- (2) Written confirmation of the First Export Date shall be provided to the Planning Authority no later than one calendar month after that date.
- (3) No development shall commence unless and until a decommissioning, restoration and aftercare strategy has been submitted to, and approved in writing by, the Planning Authority (in consultation with NatureScot and SEPA). The strategy shall outline measures for the decommissioning of the Development and restoration and aftercare of the site, and shall include proposals for the removal of the Development, the treatment of ground surfaces, the management and timing of the works and environmental management provisions.
- (4) No later than three years prior to decommissioning of the Development, a detailed decommissioning, restoration and aftercare plan, based upon the principles of the approved decommissioning, restoration and aftercare strategy, shall be submitted for the written approval of the Planning Authority in consultation with NatureScot and SEPA. The detailed decommissioning, restoration and aftercare plan shall provide updated and detailed proposals, in accordance with relevant guidance at that time, for the removal of the Development, the treatment of ground surfaces, the management and timing of the works and environment management provisions which shall include (but is not limited to):
 - (a) a site waste management plan (dealing with all aspects of waste produced during the decommissioning, restoration and aftercare phases);
 - (b) details of the formation of the construction compound, welfare facilities, any areas of hardstanding, turning areas, internal access tracks, car parking, material stockpiles, oil storage, lighting columns, and any construction compound boundary fencing;
 - (c) a dust management plan;
 - (d) a traffic management plan;
 - (e) the appointment of an Ecological Clerk of Works;
 - (f) details of measures to be taken to prevent loose or deleterious material being deposited on the local road network, including wheel cleaning and lorry sheeting facilities, and measures to clean the site entrances and the adjacent local road network;

- (g) a pollution prevention and control method statement, including arrangements for the storage and management of oil and fuel on the site;
- (h) details of measures for soil storage and management;
- (i) a surface water and groundwater management and treatment plan, including details of the separation of clean and dirty water drains, and location of settlement lagoons for silt laden water;
- (j) details of measures for sewage disposal and treatment;
- (k) temporary site illumination;
- (l) the construction of any temporary access into the site and the creation and maintenance of associated visibility splays;
- (m) details of watercourse crossings; and
- (n) a species protection plan based on surveys for protected species (including birds) carried out no longer than eighteen months prior to submission of the plan.

- (5) The Development shall be decommissioned, the site restored and aftercare undertaken in accordance with the approved plan, unless and until otherwise agreed in writing in advance with the Planning Authority (in consultation with NatureScot and SEPA).

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.

2. Final Needs Case for electricity transmission link (interconnector)

No development is to be commenced unless and until Ofgem have approved the Final Needs Case for Scottish Hydro Electric Transmission's (SHE-T) proposed project to build an electricity transmission link between Orkney and mainland Scotland. For the avoidance of doubt, a conditional decision of Ofgem to approve the Final Needs Case does not constitute Ofgem's approval under the terms of this condition.

Reason: To prevent a situation whereby the Final Needs Case fails to receive Ofgem's final approval but the proposed development is still constructed, leading to the adverse impacts of the proposed development without realisation of the broader benefit given weight in Ministers' decision.

3. Redundant Turbines

The wind farm operator shall, at all times after the First Export Date, record information regarding the monthly supply of electricity from the site and electricity generated by each individual turbine within the development and retain the information for a period of at least 12 months. The information shall be made available to the Planning Authority within one month of any request by them.

In the event that any wind turbine installed and commissioned fails to supply electricity on a commercial basis for a continuous period of 12 months, unless otherwise agreed with the Planning Authority a scheme shall be submitted to the Planning Authority for its written approval within 3 months from the end of that 6

month period for the repair or removal of those turbines. The scheme shall include either a programme of remedial works where repairs to the relevant turbine(s) are required, or a programme for removal of the relevant turbine(s) and associated above ground works approved under this permission and the removal of the turbine foundations to a depth of at least 1 metre below ground and for site restoration measures following the removal of the relevant turbine(s). The scheme shall thereafter be implemented in accordance with the approved details and timetable.

Reason: To ensure appropriate provision is made for any turbine(s) requiring repair or decommissioning.

4. Health and Safety or Environmental Obligations

In the event of any breach of health and safety or environmental obligations relating to the development during the period of this permission, written notification of the nature and timing of the incident to Scottish Ministers and the planning authority, including confirmation of remedial measures taken and/ or to be taken to rectify the breach, shall be submitted within 24 hours of the incident occurring.

Reason: In the interests of public health and safety and environmental protection

5. EIA Report

The development shall be implemented in full and strict accordance with the plans and mitigation measures described in Chapter 17 'Schedule of Environmental Commitments' of the EIA Report, and supplementary documents, unless otherwise agreed in writing with the planning authority or unless otherwise required or approved in relation to conditions attached to this permission.

Reason: To ensure the environmental effects of the development are effectively managed and mitigated.

6. Design of Wind Turbines

Prior to the erection of the first turbine, full details of the proposed wind turbines (including, but not limited to, the power rating, size, type, external finish and colour), any anemometry masts and all associated apparatus shall be submitted to and approved in writing by the planning authority. The blade tip height of the turbines shall not exceed 149.9 metres above ground level. Turbine T5 shall have a hub height of at least 82 metres and a rotor radius of no greater than 68 metres.

The development shall be constructed and operated in accordance with the approved details and 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. 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 (other than health and safety signage) unless otherwise approved in writing by the planning authority.

Reason: In the interests of visual amenity and to safeguard existing telecommunications infrastructure.

7. Signage

Notwithstanding the provisions of the Town and Country Planning (Control of Advertisements) (Scotland) Regulations 1984 (as amended), and unless there is a demonstrable health and safety or operational reason, none of the wind turbines substation buildings/enclosures 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: In the interests of visual amenity.

8. Design of Substation and Ancillary Development

Prior to the construction of the sub-station building, full details of the external appearance, dimensions, surface materials, associated compounds, any construction compound boundary fencing, external lighting, landscaping and parking areas shall be submitted to and approved in writing by the planning authority. The substation building, associated compounds, fencing, external lighting and parking areas shall be constructed in accordance with the approved details.

Reason: In the interests of visual amenity.

9. Construction Hours

Hours of construction work on site involving the use of machinery and powered tools, or any other operation that would audible from any noise-sensitive receptor, and all HGV movements to and from the site, shall only take place between the hours of 08:00 and 18:00 Mondays to Fridays, 08:00 to 12:30 on Saturdays and not at all on Sundays or bank holidays, unless otherwise agreed, in writing, with the Planning Authority. Outwith these specified hours, development on the site shall be limited to maintenance, emergency works, dust suppression, and the testing of plant and equipment, unless otherwise approved in advance in writing by the Planning Authority.

Reason: In the interests of residential amenity.

10. Construction Traffic Management Plan

Prior to the commencement of construction activities at the development, a Construction Traffic Management Plan (CTMP) shall be submitted to and approved in writing by the planning authority. The CTMP shall include:

- a) agreed routes for the delivery of construction materials associated with the development on the local road network;
- b) measures to ensure that the specified routes are adhered to, including monitoring procedures;
- c) details of all road signage and associated traffic management measures to be installed at the site access junction;
- d) provide a detailed construction programme;
- e) details of the loads (number of loads and type of vehicle) associated with each month of construction and their routes to site;
- f) detail the measures to be provided to ensure that the public road is kept free of mud and debris;
- g) details of the safety induction to be provided for all staff working at the site;
- h) a protocol for working with local businesses to ensure the construction traffic does not adversely interfere with deliveries or normal business traffic;

- i) a description of a construction liaison committee to provide a conduit between the community and the developer to address any transport matters that may arise; and
 - j) details of a staff transport and travel arrangement plan to reduce vehicle trips associated with the construction phase of the development.
- Once approved, the CTMP shall be operated as approved.

Reason: In the interests of road safety.

11. Abnormal Loads

Three months prior to the delivery of turbine components, a Route Access Report for all abnormal load movements (vehicles over 44 tonnes GVW or width greater than 2.9m or length greater than 18.3m) shall be submitted for the written agreement of the Planning Authority in consultation with Police Scotland. The following details shall be submitted within the plan:

- a) details of the proposed vehicles delivering the loads, including weights and general dimensions;
- b) details of any road widening, temporary traffic measures and signage or removal of street furniture or vegetation required to enable delivery. Where necessary, these should be informed by swept path assessments;
- c) proposals for trial runs to be undertaken prior to deliveries being made;
- d) proposed traffic safety measures to be adopted for all abnormal load movements including confirmation of police escorting at all times on the public road;
- e) details of how local stakeholders and residents will be advised of deliveries;
- f) a liaison plan with emergency services; and
- g) a timetable for proposed deliveries.

Once agreed the developer shall undertake abnormal road movements and associated works in accordance with the agreed details and shall provide one month advance notice of the exact movement dates to the planning authority.

Reason: In the interests of road safety.

12. Wear and Tear

Prior to the commencement of works on site, a methodology for formulating a Wear and Tear Agreement shall be forwarded to the planning authority for agreement. The area that the agreement shall cover will be restricted to 200 metres from the site access on the A965 in either direction. This agreement shall then be secured via a bond or other such mechanism and shall be undertaken in full during the construction period. Any damage to the road within the area covered by the agreement shall be attended to by the applicant, without cost to the Roads Authority.

Reason: In the interests of road safety.

13. Port Management Plan

Six months prior to the delivery of turbine components to Orkney, a Port Management Plan (PMP) shall be submitted to and approved in writing by the planning authority. The CTMP shall include:

- a) the proposed timescales for turbine component deliveries to be made;
- b) outline and agree quay space and temporary storage areas with Marine Services;
- c) outline and agree crane and stevedore access arrangements;
- d) confirm and book quay space;

e) detail the vessels that will undertake the deliveries; and
f) agree access rights along the access road from the pier and the convoy management with the Council, Marine Services and Police.
Once approved, the CTMP shall be operated as approved.

Reason: To minimise disruption to port operations and in the interests of public safety.

14. Construction Environmental Management Plan

Prior to the commencement of development a Construction Environmental Management Plan (CEMP) outlining site specific details of all on-site construction works, post-construction reinstatement, drainage and mitigation, together with details of their timetabling shall be submitted to and approved in writing by the planning authority in consultation with NatureScot, Historic Environment Scotland and Scottish Environment Protection Agency. The CEMP shall include full details of all the pre-construction and construction phase mitigation measures described within Chapter 17 of the EIA Report, and of how the mitigation measures will be implemented and monitored. The CEMP shall include (but shall not be limited to):

- A site waste management plan;
- Details of the formation of the construction compound, welfare facilities, any areas of hardstanding, turning areas, internal access tracks, car parking, material stockpiles, oil storage, lighting columns and any construction compound boundary fencing;
- A construction dust management plan;
- A construction noise management plan
- Details of measures to be taken to prevent loose or deleterious material being deposited on the local road network
- A pollution prevention strategy
- Details of the timing and methodology of pre-construction ornithological surveys and how the results of these will be reported.
- Details of measures to protect habitats and species, to be overseen by an Ecological Clerk of Works.

The development shall thereafter be delivered in accordance with the approved CEMP, which shall be implemented in full unless otherwise agreed in writing by the planning authority.

Reason: To ensure a satisfactory level of environmental protection during construction of the development.

15. Ecological Clerk of Works

No development shall commence until an Ecological Clerk of Works (ECoW) has been appointed and details of the identity and terms of appointment of the ECoW have been submitted to and agreed in writing by the planning authority. The ECoW shall be employed for the period of wind farm construction, including site preparation, micro-siting and post-construction restoration.

Reason: To protect ecological interests.

16. Micro-siting

That the wind turbines, crane pads, tracks, substation compound, and meteorological mast locations shall not be erected in any position other than the positions shown in the EIA Report, unless approved by the Ecological Clerk of Works (ECoW). Any such variation (micro-siting) shall not exceed 50 metres in any direction from that shown in the EIA Report. Turbine T5 is to be excluded from the micro-siting allowance.

No later than one month after the date of First Commissioning, an updated site plan showing the final position of all wind turbines, buildings, masts, areas of hardstanding, tracks and associated infrastructure forming part of the Development shall be submitted to the Planning Authority. The plan shall also specify areas where micrositing has taken place and, for each instance, be accompanied by copies of the ECoW's approval, as applicable.

Reason: To enable necessary minor adjustments to the position of the wind turbines and other infrastructure to allow for site-specific conditions whilst safeguarding existing telecommunications infrastructure.

17. Operational Environmental Management Plan

No development shall commence until an Operational Environmental Management Plan (OEMP) has been submitted to, and approved in writing by, the Planning Authority. The OEMP shall include full details of all the operational phase mitigation measures described within Chapter 17 of the EIA Report, and of how those measures will be implemented and monitored. The OEMP shall include (but shall not be limited to) a grazing management plan (which shall include confirmation that the ephemeral pools within the site shall be fenced-off to livestock to allow them to become an enhanced wetland feature. The fencing shall remain in place in perpetuity unless, within an initial trial period of one year, the pools become dry and evidence of this is submitted to the planning authority and the removal of the fencing is agreed in writing by the planning authority) and details of stoat control. The development shall thereafter be delivered in accordance with the approved OEMP, which shall be implemented in full unless otherwise agreed in writing by the planning authority.

Reason: To ensure a satisfactory level of environmental protection during the operational phase.

18. Species Protection Plan

No development shall commence until a construction Species Protection Plan for otter is submitted to, and approved in writing by, the Planning Authority. The development shall thereafter be delivered in accordance with the approved plan, which shall be implemented in full.

Reason: In the interests of nature conservation.

19. Written Scheme of Archaeological Investigation

No development shall commence until a Written Scheme of Archaeological Investigation is submitted to and approved in writing by the Planning Authority, in consultation with Historic Environment Scotland. The development shall thereafter be delivered in accordance with the approved scheme.

Reason: To protect and/or record features of archaeological importance.

20. Drainage Ditches

The developer will ensure that the 6 metre buffers around the drainage ditches are maintained and that all new infrastructure (with the exception of any proposed watercourse crossings and directly related tracks) occurs outwith the 6 metre buffer area from water features on site unless adequate justification is provided and it is agreed in writing with the planning authority, in consultation with SEPA.

Reason: In the interests of nature conservation.

21. Surface water drainage

No development shall commence until full details of all surface water drainage provision within the application site (which should accord with the principles of Sustainable Urban Drainage Systems (SUDS)) have been submitted to, and approved in writing by, the Planning Authority. The development shall thereafter be completed in accordance with the approved details prior to the First Export Date.

Reason: To ensure that surface water drainage is provided timeously and complies with the principles of SUDS.

22. Aviation

No development in respect of this planning permission shall take place unless and until the developer has provided written confirmation to the Ministry of Defence the anticipated date of commencement and completion of construction; the maximum height above ground level of the construction equipment and the position of each wind turbine in latitude and longitude. At the same time, the developer shall confirm in writing to the planning authority that this has been undertaken.

Reason: In the interests of aviation safety.

23. Aviation lighting

No turbine shall be erected until a scheme for aviation lighting for the wind farm consisting of Ministry of Defence accredited infra-red aviation lighting has been submitted to and approved in writing by the Planning Authority. The turbines shall be erected with the approved lighting installed and the lighting shall remain operational throughout the duration of the permission.

Reason: In the interests of aviation safety.

24. Shadow Flicker

No development shall commence unless and until a Shadow Flicker Protocol has been submitted to, and approved in writing by, the Planning Authority. The Shadow Flicker Protocol shall set out a protocol for addressing any complaint received from a residential receptor within the study area defined in Chapter 15 of the EIA Report, and will set out mitigation and management options. Operation of the turbines shall take place in accordance with the approved Shadow Flicker Protocol and any mitigation measures that have been approved through the protocol shall be implemented.

Reason: In the interests of residential amenity.

25. Noise (relating to Operation Phase)

The rating level of noise immissions from the combined effects of any wind turbine or turbines lawfully developed as described below (including the application of any tonal penalty) when determined in accordance with the attached Guidance Notes, 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 and:

- a) The wind farm operator shall, for turbines which are under his control, 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 wind farm operator shall provide this information in the format set out in Guidance Note 1(e) to the Planning Authority on its request, within 14 days of receipt in writing of such a request.
- b) No electricity shall be exported until the wind farm operator has submitted to the Planning Authority for written approval a list of proposed independent consultants who may undertake compliance measurements in accordance with this condition. Amendments to the list of approved consultants shall be made only with the prior written approval of the Planning Authority.
- c) Within 21 days from receipt of a written request from the Planning Authority following a complaint to it from an occupant of a dwelling alleging noise disturbance at that dwelling, the wind farm operator shall, at its expense, employ a consultant approved by the Planning Authority 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 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 Planning Authority, the noise giving rise to the complaint contains or is likely to contain a tonal component.
- d) 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 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 Planning Authority under paragraph (c), and such others as the independent consultant considers likely to result in a breach of the noise limits.
- e) Where a dwelling to which a complaint is related is not listed in the tables attached to these conditions, the wind farm operator shall submit to the 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 Planning Authority for the complainant's dwelling.

f) The wind farm operator shall provide to the 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 Planning Authority for compliance measurements to be made under paragraph (c), unless the time limit is extended in writing by the 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 Planning Authority with the independent consultant's assessment of the rating level of noise immissions.

g) Where a further assessment of the rating level of noise immissions from the wind farm is required pursuant to Guidance Note 4(c), the wind farm operator shall submit a copy of the further assessment within 21 days of submission of the independent consultant's assessment pursuant to paragraph (d) above unless the time limit has been extended in writing by the Planning Authority.

h) Once the Planning Authority has received the independent consultant's noise assessment required by this condition, including all noise measurements and any audio recordings, where the Planning Authority is satisfied of an established breach of the noise limits set out in the attached tables, upon notification by the Planning Authority in writing to the wind farm operator of the said breach, the wind farm operator shall within 21 days propose a scheme for the approval of the Planning Authority. The scheme shall be designed to mitigate the breach and to prevent its future recurrence. This scheme shall specify the timescales for implementation. The scheme shall be implemented as reasonably approved by the Planning Authority and according to the timescales within it. The scheme as implemented shall be retained thereafter unless otherwise agreed with the Planning Authority.

i) If, on the basis of the independent consultant's noise assessment, the Planning Authority is satisfied that any established breach of the noise limits set out in the attached tables (having regard to the guidance Notes attached) is as a result of any turbine or turbines lawfully developed under application or applications stated in these tables being in breach of planning conditions applied to it or them, and that the turbines approved under this application are not subject to a tonal penalty as described in guidance notes 3 and 4 attached, then no further action will be required by the developer of the turbines approved under this application in regards to these noise conditions as they relate to noise from the operation of the approved wind turbines.

j) In the event that the developer claims that one or more noise sensitive receptors are subject to a direct financial involvement in the development approved under this application, and therefore the noise sensitive receptor should be subject to the higher noise limits for such financially involved noise sensitive receptors as described in ETSU-R-97 The Assessment and Rating of Noise from Wind Farms, the developer shall provide evidence of such financial involvement for the approval of the Planning Authority and thereafter shall provide evidence of the ongoing nature of the financial involvement within 21 days of a written request from the Planning Authority.

k) In the event that noise modelling in accordance with ETSU-R-97 and the Institute of Acoustics Good Practice Guide (including Supplementary Guidance Notes) indicates the noise limits in the attached tables cannot be complied with without Noise Mitigation Measures being implemented the Developer shall, prior to any generation of electricity, agree in writing with the Planning Authority any such Noise Mitigation Measures and thereafter, unless otherwise agreed in writing by the Planning Authority, maintain those noise mitigation measures.

Noise limits from any lawfully developed turbines under application 20/037/TPMAJ

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 10m height in m/s within the site averaged over 10 minute periods.									
	3	4	5	6	7	8	9	10	11	12
1 Quanterness Cottage	37.3	37.7	38.4	39.3	40.7	42.3	44.5	44.5	44.5	44.5
2 Quanterness Cottage	37.3	37.7	38.4	39.3	40.7	42.3	44.5	44.5	44.5	44.5
Quanterness Farm	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
Harwood	37.3	37.7	38.4	39.3	40.7	42.3	42.3	42.3	42.3	42.3
Cassie House, Blackhill	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Ingashowe	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0

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 10m height in m/s within the site averaged over 10 minute periods.									
	3	4	5	6	7	8	9	10	11	12
1 Quanterness Cottage	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0

2 Quanterness Cottage	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
Quanterness Farm	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
Harwood	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
Cassie House, Blackhill	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
Ingashowe	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0

In the event that the developer provides evidence to the satisfaction of the Planning Authority under condition j) above that the Occupier(s) of any address subject to the above noise limits has an ongoing direct financial involvement in the development approved under this planning application any figure which is less than 45.0 in tables 1 and 2 above shall be replaced with 45.0.

Noise limits from any lawfully developed turbines under application 20/037/TPPMAJ cumulative with the turbine developed under application 09/092/PPF (Crowness Business Park (Site 3) (Land Near), Hatston Industrial Estate, Kirkwall).

Table 3 – 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 10m height in m/s within the site averaged over 10 minute periods.									
	3	4	5	6	7	8	9	10	11	12
Saverock	37.3	37.7	38.4	39.3	40.7	42.3	42.3	42.3	42.3	42.3

Table 4 – 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 10m height in m/s within the site averaged over 10 minute periods.									
	3	4	5	6	7	8	9	10	11	12
Saverock	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0

Noise limits from any lawfully developed turbines under application 20/037/TPPMAJ Cumulative with the turbine developed under application 12/108/TPP Rennibister (Land Near) Firth Orkney.

Table 5 – 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 10m height in m/s within the site averaged over 10 minute periods.									
	3	4	5	6	7	8	9	10	11	12
Rennibister	37.3	37.7	38.4	39.3	40.7	40.7	40.7	40.7	40.7	40.7
Rennibister Cottage	37.3	37.7	38.4	39.3	40.7	40.7	40.7	40.7	40.7	40.7

Table 6 – 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 10m height in m/s within the site averaged over 10 minute periods.									
	3	4	5	6	7	8	9	10	11	12
Rennibister	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
Rennibister Cottage	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0

During any period in which the Turbine approved under application 12/108/TPP is operational any figure which, in respect of Rennibister, is less than 45.0 in tables 5 and 6 above shall be replaced with 45.0. For sake of clarity this does not apply to Rennibister Cottage.

Noise limits from any lawfully developed turbines under application 20/037/TPPMAJ cumulative with the turbines developed under applications 11/009/TPP, 11/451/TPP, 12/369/TPP, 11/527/TPP & 11/775/TTP (multiple small WTG's in the 5 – 20kW range).

Table 7 – 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 10m height in m/s within the site averaged over 10 minute periods.									
	3	4	5	6	7	8	9	10	11	12
Burness	35.0	35.0	35.0	36.6	40.2	44.1	44.1	44.1	44.1	44.1
Quoys of Ayre	35.0	35.0	35.0	36.6	40.2	44.1	44.1	44.1	44.1	44.1
Mou Ness	35.0	35.0	35.0	36.6	40.2	44.1	44.1	44.1	44.1	44.1
Burness Cottage	35.0	35.0	35.0	36.6	40.2	44.1	44.1	44.1	44.1	44.1

Table 8 – 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 10m height in m/s within the site averaged over 10 minute periods.									
	3	4	5	6	7	8	9	10	11	12
Burness	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
Quoys of Ayre	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
Mou Ness	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
Burness Cottage	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0

Table 9: Coordinate locations of the properties listed in Tables 1 and 2.

Property	Easting	Northing
1 Quanterness Cottage	341668	1013100
2 Quanterness Cottage	341679	1013100
Quanterness Farm	341827	1012883
Harwood	341958	1012838
Cassie House, Blackhill	342644	1011650
Ingashowe	338841	1012535
Saverock	342662	1012712
Rennibister	339719	1012577
Rennibister Cottage	339629	1012314
Burness	338812	1015786
Quoys of the Ayre	339051	1016536
Mou Ness	339585	1017021
Burness cottage	338756	1016257

Note to Table 9: 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.

Reason: To safeguard against unacceptable noise disturbance in the interests of residential amenity.

Guidance Notes For 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 (including where appropriate, cumulative with other developments as described in the tables above). 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).

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 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 wind farm operator shall submit for the written approval of the 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 wind farm operator shall continuously log arithmetic mean wind speed and wind direction at hub height for each turbine and arithmetic mean power generated by each turbine, all in successive 10-minute periods, unless otherwise agreed in writing with the Planning Authority. The mean wind speed data for the operating turbines 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, averaged across all operating wind turbines, 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 Planning Authority in accordance with the noise condition shall be provided in comma separated values in electronic format.

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) 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 measurements periods set out in Guidance Note 1. In specifying such conditions the 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.

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 104 -109 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 substituted.

(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 17 on page 104 of ETSU-R-97 (The Assessment and Rating of noise from Wind Farms)

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 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 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 wind farm operator 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 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:

$$L_1 = 10\log[10^{L2/10} - 10^{L3/10}]$$

(g) The rating level shall be re-calculated by adding 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 guidance 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 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 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.