17 Schedule of Environmental Commitments

Contents

This page is intentionally blank.

17 Schedule of Environmental Commitments

17.1 Introduction

17.1.1 Best practice in Environmental Impact Assessments (EIA) recommends the use of a Schedule of Environmental Commitments, which can act as a quick reference for anyone interested in the mitigation measures to which the Applicant has committed to implementing and upon which the assessment of residual effects presented within the EIA report has been based. It will be utilised by the Applicant throughout development of the detailed design, and the appointed contractors will be required to allow for, and ultimately implement, each of the measures in this schedule as a minimum.

17.1.2 Table 17.1 presents a Schedule of Environmental Commitments for the Proposed Development, listed according to the relevant environmental topic area. Individual EIA Report chapters should be referred to for full details of the mitigation.

Table 17.1 - Schedule of Environmental Commitments

Subject Area	Commitment	Timing
3. Proposed Development		
CEMP	As part of the construction contract, the Applicant will produce, and adhere to, a CEMP. The CEMP shall be developed in accordance with the joint Scottish Renewables, SNH, SEPA, Forestry Commission Scotland and Historic Environment Scotland guidance on Good Practice During Windfarm Construction (2019). The CEMP shall describe how the Applicant will ensure suitable management of, but not limited to, the following environmental issues during construction of the Proposed Development: ▪ noise and vibration; ▪ dust and air pollution; ▪ surface and ground water; – a pollution risk assessment of the site and proposed activities; – identification of all Controlled Waters that may be affected by the works and temporary discharge points to these drainage ditches and the marine environment; – planning and design of appropriate pollution control measures during earthworks and construction; – management of the pollution control system, including dewatering of excavations away from existing drainage ditches and the marine environment; – contingency planning and emergency procedures; – ongoing monitoring of construction procedures to ensure management of risks is maintained; – a detailed breakdown of the phasing of construction activities; ▪ ecology (including protection of habitats and species);	Pre-construction and construction

Subject Area	Commitment	Timing
	▪ agriculture (including protection of livestock and land); ▪ cultural heritage; ▪ waste (construction and domestic); ▪ pollution incidence response (for both land and water); and ▪ site operations (including maintenance of the construction compound, working hours and safety of the public). The Applicant shall provide the following for integration within the CEMP: ▪ details of the all the environmental mitigation which is described within this chapter that is required during construction of the Proposed Development, and of how the Applicant will implement this mitigation and monitor its implementation and effectiveness; • details of how the Applicant will abide by the local and national legislative requirements e.g. The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (amended 2013); • details of how the Applicant will implement and monitor construction best practice techniques e.g. the control of noise and dust; • details of a Waste Management Plan which will include opportunities to reduce and re-use waste on site, recycling of waste which cannot be reused and disposal of waste to landfill; • details on how the Applicant will liaise with the public and local landowners and how they will respond to any queries and/or complaints; and • the implementation of the CEMP will be overseen by an Environmental Clerk of Works (ECoW). The Applicant shall consult with SNH, SEPA, Historic Environment Scotland and OIC on the relevant aspects of the CEMP. The Applicant shall amend and update the CEMP as required throughout the construction and decommissioning period. The CEMP shall, where applicable, cross-reference and correspond with the Construction Traffic Management Plan (CTMP). The CTMP will detail the management of traffic to and from site, including abnormal loads and daily workers	

Subject Area	Commitment	Timing
	commute. It shall also include mitigation for impacts to public transport, local private access and public foot paths. The Applicant shall amend and update the CTMP as required throughout the construction and decommissioning period. Specific requirements of the CEMP for each of the environmental topics assessed in the EIA are provided in the relevant EIA Report chapters and an outline CEMP is provided in Appendix 3.2.	
Design	There will be a micro-siting allowance of up to 50 m in all directions in respect of all infrastructure in order to address any potential difficulties which may arise in the event that preconstruction surveys identify unsuitable ground conditions or environmental constraints that could be avoided. The exception to this is turbine T5 which will not be micro-sited between 141° and 341° to prevent any impacts on the telecommunication links. No micro-siting will be undertaken that results in an increase in the significance of adverse effects.	Pre-construction
Pollution Prevention Strategy	A pollution prevention strategy, contained within the CEMP, will be agreed with SEPA to ensure that appropriate measures are put in place to protect watercourses and the surrounding environment. This will contain all the mitigation measures to prevent pollution occurring on site. High standards of health and safety will be established and maintained. At all times, all activities will be undertaken in a manner compliant with applicable health and safety legislation and with relevant good practice as defined under applicable statutory approved codes of practice and guidance.	Pre-construction and construction
Operation Environmental Management Plan (OEMP)	The OEMP will set out how the Applicant will manage and monitor environmental effects throughout operation. The OEMP will be developed in consultation with SNH, SEPA and OIC and will include but not be limited to: • details on the track, water crossings and turbine maintenance; • the control and monitoring of noise; • the control and monitoring of surface and groundwater; • a pollution prevention plan and a pollution incidence response plan;	Operation

Subject Area	Commitment	Timing
	• details of how the Applicant will abide by the local and national legislative requirements e.g. The Water Environment (Controlled Activities) (Scotland) Regulations 2011; and • a Grazing Management Plan and relevant protected species management plans (if required).	
7. Ornithology		
Pre construction surveys	Not more than 12 months prior to construction of the Proposed Development, the Applicant will engage a Suitably Qualified Ecologist (SQE) to undertake a series of pre-construction ornithological surveys to update the baseline information reported in Chapter 7. The aim of these surveys would be to provide up to date information in order to finalise the mitigation proposals. This would be in addition to completing a final check prior to construction for protected species (see Chapter 8 of this EIA Report) and would be discussed and agreed with SNH.	Pre-construction
Construction surveys	The ECoW will undertake construction phase surveys of birds within the Proposed Development and will record information of breeding success as far as is possible (avoiding disturbance, and following relevant survey guidance provided in SNH, 2017).	Construction
Vegetation removal	Further to or incorporated into the update surveys above, protection of breeding bird nests from damage and/or destruction during the breeding season will need to be ensured. Wherever possible, all vegetation clearance will occur outside the breeding season (i.e. between September – March, inclusive, but preferably November -January), to ensure that no active nests are damaged or destroyed by the proposed works. This would include any areas of shrub clearance and vegetation removal for access tracks, compounds or turbine bases due to the populations of ground nesting birds on and around the site. If there is a need for habitat removal outwith this period all work will be overseen by an ECoW who will determine if breeding birds are present or not.	Construction
Vegetation removal	Should construction take place between March and August inclusive, any areas for tracks, material laydown, turbine bases and other infrastructure will be kept short and largely devoid of vegetation during the breeding season until such time that they are developed. This will be achieved by regular ploughing, mechanical cutting or strimming during the breeding season. It is recommended that the areas are initially ploughed in early to mid-March, and again in May if they have not been developed by that point. Between these times, the cleared areas should be visited by an ECoW,	Pre-construction/ construction

Subject Area	Commitment	Timing
	to check whether they have been colonised by nesting birds, advise on any restrictions these pose and whether further measures are needed to keep the vegetation under control and deter birds from nesting.	
Habitat disturbance	Avoidance of unnecessary disturbance to habitats by minimising the extent of ground clearance and other construction practices as far as practicable.	Construction
Met mast	The permanent met mast will have line markers on guide wires to mitigate for bird collisions.	Operation
Ecological toolbox talk	An ecological toolbox talk will be given to all construction personnel as part of site induction on the potential presence of ornithological species and any measures that need to be undertaken should such species be discovered during construction activities. The toolbox talk will also include the requirement to report and log any bird casualties (including due to the temporary met-mast) at the Proposed Development during construction and operation of the site.	Construction/ operation
Site restoration plan	Implementation of a Site Restoration Plan (SRP) as part of the CEMP to ensure the regeneration of those areas of habitat that have been temporarily lost through development.	Construction
Restoration	In order to facilitate restoration, disturbed ground will be restored as soon as practicably possible using materials removed during the construction of access tracks, excavation of cable trenches and turbine foundations. To achieve this, any excavated soil will need to be stored in such a manner that is suitable to facilitate retention of the seed bank. This will aid site restoration and help conserve the pre-construction floristic interests at the site.	Construction
Waders	A Grazing Management Plan (GMP) will be implemented to improve habitats for breeding waders. Half of the area of land shown in Figure 7.13 will only be grazed by sheep from the beginning of April to the end of May meaning that nest building and early incubation stages will be unaffected through trampling by cattle.	Operation

Subject Area	Commitment	Timing
8. Ecology		
ECoW	A suitably qualified Ecological Clerk of Works (ECoW) will be appointed prior to the commencement of any construction activities take place. The ECoW will be present and oversee construction activities as well providing toolbox talks to all site personnel with regards to priority species and habitats, as well as undertaking monitoring works and briefings to relevant staff and contractors as appropriate.	Pre-construction / construction
Pollution	In order to prevent pollution of watercourses within the site (with particulate matter or other pollutants such as fuel), best practice techniques will be employed.	Construction
Otters	Additional mitigation measures for otter will include: ▪ Development of an otter-specific protection plan. ▪ Pre-construction otter survey to establish if there have been any significant change in the status of otter on site and within 250 m since the original survey. ▪ Implementation of an exclusion zone of at least 30 m to be implemented around any new holt or resting place. ▪ Avoid creating any obstructions to established otter pathways or access to open water as instructed by the ECoW. ▪ Avoid working in the vicinity of identified otter habitat (i.e. the watercourses and waterbodies) during the hours of darkness and within two hours after sunrise and two hours before sunset. This can be reduced to one hour between November and February due to limited daylight. ▪ Cap any exposed pipe systems when not being worked and provide exit ramps for any exposed trenches or excavations (to prevent otters entering and becoming trapped).	Pre-construction/ construction
Otters	Driver awareness and 10mph speed controls within the Proposed Development site to limit the risk of road traffic accident mortality.	Construction / operation

Subject Area	Commitment	Timing
9. Noise		
Construction	The following good practice measures will be implemented during construction to limit unnecessary noise: ▪ avoid unnecessary revving of engines and switching off plant when not required (i.e. no idling); ▪ haul routes to be kept well maintained, with no steep gradients; ▪ minimising the drop height of materials during delivery to, and movement around, site; ▪ starting up plant and vehicles sequentially, rather than all together; ▪ specification of plant with white-noise or directional reversing alarms, rather than beeper type alarms (unless required for health and safety); ▪ where possible, selection of quiet / noise reduced plant; ▪ vehicles accessing the site will have regard to the normal operating hours of the site and the location of nearby noise sensitive receptors; and ▪ use and siting of equipment will be considered such that noise is minimised. For example, any generators or powered cabins within the construction compound will be sited such that noise from the generator exhaust is directed away from the closest noise sensitive receptors, and cabins and other infrastructure are used to screen noise from such plant wherever possible.	Construction
Fixed (non-turbine) plant noise	Noise from non-turbine operational plant will comprise noise from substations only. The sound power level and final location of the substation(s) are yet to be finalised, however, noise from the final type and location of the substation will be attenuated by acoustic enclosure (if required), such that it meets the derived non-turbine noise limits (refer to Chapter 9). A sound power level of 90 dB(A), equivalent to a sound pressure level of 62 dB(A) at 10 m, would enable the noise limit to be met. The installed substation will meet these criteria.	Operation
Noise limit compliance	Final turbine selection will be undertaken with a view to achieving compliance. The noise assessment has been undertaken using the Vestas V136 candidate turbine. Should a different turbine model be chosen then a	Pre-construction

Subject Area	Commitment	Timing
	supplementary noise assessment will be undertaken to confirm compliance with the derived noise limits. A warranty covering the noise emissions of the selected turbine will be obtained from the turbine supplier/manufacturer.	
Noise limit compliance	If required noise limits will be achieved by using low-noise mode operation of one or more of the closest turbines to affected noise sensitive receptors under particular wind conditions.	Operation
Turbine operation	Following first operation of the Proposed Development a noise assessment will be commissioned by the Applicant to determine compliance with the consented noise limits. Should any exceedances of noise limits attributable to the Proposed Development be identified the Applicant will put in place an operational noise management plant, such that noise limits are met.	Operation
10. Cultural Heritage		
WSI	A Written Scheme of Investigation will be agreed with OIC in consultation with Orkney Country Archaeologist detailing all the required mitigation.	Pre-construction
Archaeological sites	A 100m protective buffer will be maintained around the sites of both the Crossiecrown late Neolithic settlement (Site 491) and the Ramberry ring cairn (Site 493). No works will be undertaken within these buffers which will be fenced prior to the onset of construction and not entered for the duration of the works. The site of the passage structure that was excavated on the Ramberry headland (Site 563) will also be fenced off and protected prior to construction.	Pre-construction/ construction
Unrecorded sites	The potential for previously unrecorded buried remains to be affected will be addressed by a programme of archaeological works, undertaken as a condition of planning consent which will be undertaken prior to the commencement of construction of the Proposed Development. This will include: ▪ a geophysical survey 60 m either side of the centrelines of the access tracks and cable routes and around the substation and temporary construction compound; ▪ a geophysical survey 100m around each of the proposed turbine locations; and	Pre-construction

Subject Area	Commitment	Timing
	▪ trial trenching which will be targeted on any possible anomalies that were identified through the geophysical survey as well as a representative percentage of the total footprint of the development infrastructure.	
Archaeological fieldwork	Any archaeological fieldwork commissioned in order to mitigate direct effects will result in the production and dissemination of a professional archive.	Pre-construction
11. Geology, Hydrology, and Hydrogeology		
Weather	Site management will check the local weather forecast daily and prime all site staff to ensure that everyone is aware of their responsibilities to maintain the pollution control system during wet weather.	Construction
Fuel, oil or chemical spill	All fuel and other chemicals will be stored in accordance with best practice procedures, including in a designated fuelling site located at a safe distance from existing drainage ditches and in appropriate impermeable bunded containers/areas which will be defined within the CEMP. These will be designed to capture any leakage, whether from a tank or from associated equipment such as filling and off-take points, sighting gauges etc., all of which will be located within the bund. Oil booms and soakage pads will be maintained in all work areas and spill kits kept in all vehicles to enable a rapid and effective response to any accidental spillage or discharge. All construction staff will be trained in the effective use of this equipment. Construction vehicles and plant will be regularly maintained and all maintenance, fuelling and vehicle washing will be undertaken on appropriate impermeable surfaces away from drainage ditches in order to minimise risks of leaks to soil and surface waters.	Construction
Concrete	The contractor will develop a method statement to address the transport, transfer, handling and pouring of concrete at foundations. Cement, grout and unset concrete will not be allowed to enter the water environment. No operations involving concrete transfer between vehicles or into vehicles will take place within 30 m of water bodies.	Construction

Subject Area	Commitment	Timing
	All vehicles used for delivery of concrete will only be washed out at locations to be agreed with SEPA. Excess concrete or wash-out liquid will not be discharged to drains or drainage ditches on site or at compounds. Drainage from washout facilities will be collected and treated or removed to an appropriate treatment point/licensed disposal site. The requirement for dewatering will be minimised in all locations by timely and efficient excavation of the foundation void and subsequent concrete pouring and backfilling.	
Soil compaction	The proposed access tracks have been designed to use the shortest amount of track possible. The tracks will be designed to spread load over the underlying soils thus minimising compaction of soils.	Construction
Drainage	Prior to construction, a detailed Drainage Strategy (DS) will be developed and agreed with SEPA and Orkney Islands Council. The DS would detail the site drainage design, including the type of surface to be used for the access track, the soft engineering and habitat enhancement measures proposed to slow surface water flows and any necessary ponds, swales, cross drains and bunds, to ensure that runoff from hard surfaces will be controlled. Should the detailed DS incorporate the existing site drainage into the Proposed Development drainage then this will be agreed with SEPA.	Pre-construction
Drainage ditch crossings	Drainage ditch crossings will be pre-cast concrete pipe culverts with cast in-situ headwalls (if required) and will be designed in accordance with SEPA Good Practice Guidance (2010).	Construction
12. Traffic and Transport		
Construction Traffic	The following measures would be implemented through a Construction Traffic Management Plan (CTMP) during the construction phase: ▪ All materials delivery lorries (dry materials) will be sheeted to reduce dust and stop spillage on public roads. ▪ Specific training and disciplinary measures will be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway. ▪ Wheel cleaning facilities will be established on the site, if required.	Pre-construction/construction

Subject Area	Commitment	Timing
	▪ Appropriate traffic management measures will also be put in place at the site access junction to advise drivers to slow down and be aware of turning traffic. ▪ Provision of construction updates on the project website and distribution of a newsletter to residents within an agreed distance of the site. ▪ Requirement for all delivery drivers to attend an induction to include a safety briefing, the need for appropriate care and speed control, particularly in sensitive areas, identification of specific sensitive areas, identification of the specified route, and the requirement not to deviate from the specified route. ▪ The production and implementation of a Staff Travel Plan which will include pick up times and car sharing information for those travelling to and from site.	
Pre construction phase	Video footage of the pre-construction phase condition of the abnormal loads access route and the construction vehicles route would be recorded to provide a baseline of the state of the road prior to any construction work commencing. This baseline would inform any change in the road condition during the construction stage of the Proposed Development. Any necessary repairs would be coordinated with Orkney Islands Council. Any damage caused by traffic associated with the Proposed Development, during the construction period that would be hazardous to road users, would be repaired immediately.	Pre-construction/construction
Construction damage	The Applicant will cover the cost of abnormal wear and tear on roads not designed for abnormal loads of construction vehicles. Any damage to road infrastructure caused directly by construction traffic would be made good, and street furniture that is removed on a temporary basis would be fully reinstated.	Construction
Road debris during construction	There would be a daily road edge review and any debris and mud removed from the public carriageway using an onsite road sweeper to keep the road clean and safe during the initial months of construction activity, until the construction junction and immediate access track works were complete.	Construction
Abnormal loads	All abnormal load deliveries would be undertaken at appropriate times (to be discussed and agreed with the relevant roads authorities and police) with the aim to minimise the effect on the local road network. It is likely that the	Construction

Subject Area	Commitment	Timing
	abnormal load convoys would travel in the early morning periods, before peak times while general construction traffic would generally avoid the morning and evening peak periods.	
Abnormal loads	Advance warning signs will be installed on the approaches to the affected road network. Information signage could be installed to help improve driver information and allow other road users to consider alternative routes or times for their journey (where such options exist). The location and numbers of signs will be agreed post consent and would form part of the wider traffic management proposals for the Proposed Development.	Construction
Abnormal loads	Information on the turbine convoys will be provided to local media outlets such as local papers and local radio to help assist the public. The Applicant will also ensure information was distributed through its communication team via the project website, local newsletters and social media. A police escort will be utilised to facilitate the delivery of the predicted loads. The police escort would be further supplemented by a civilian pilot car to assist with the escort duty. It is proposed that an advance escort would warn oncoming vehicles ahead of the convoy, with one escort staying with the convoy at all times. The escorts and convoy would remain in radio contact at all times where possible. The abnormal loads convoys will be no more than three AILs long, or as advised by the police, to permit safe transit along the delivery route and to allow limited overtaking opportunities for following traffic where it is safe to do so. The times in which the convoys would travel will need to be agreed with Police Scotland who have sole discretion on when loads can be moved.	Construction
Abnormal loads	An Abnormal Load Transport Management Plan would also be prepared to cater for all movements to and from the Proposed Development site. This would include:	Pre-construction/construction

Subject Area	Commitment	Timing
	• Procedures for liaising with the emergency services to ensure that police, fire and ambulance vehicles are not impeded by the loads. This is normally undertaken by informing the emergency services of delivery times and dates and agreeing communication protocols and lay over areas to allow overtaking. • A diary of proposed delivery movements to liaise with the communities to avoid key dates such as popular local events etc. • A protocol for working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic. • Proposals to establish a construction liaison committee to ensure the smooth management of the project / public interface with the applicant, the construction contractors, the local community, and if appropriate, the police forming the committee. This committee would form a means of communicating and updating on forthcoming activities and dealing with any potential issues arising.	
Road maintenance	Regular maintenance will be undertaken to keep the site access track drainage systems fully operational and the road surface in good condition and to ensure there are no adverse issues affecting the public road network.	Operation
Port Management Plan	Following consent, the Applicant will need to undertake a procurement exercise with the turbine suppliers to agree timescales for the import of components through Hatston Pier. As part of this process, the turbine suppliers will be required to formulate a Port Management Plan with the harbour authorities prior to the delivery of the first turbine component. The management plan will: ▪ agree timescales for deliveries to be made; ▪ agree quay space and temporary storage areas; ▪ agree crane and stevedore access arrangements; ▪ book quay space; ▪ detail the vessels that will undertake the deliveries; and	Pre-construction/construction

Subject Area	Commitment	Timing
	▪ agree access rights along the access road from the pier and the convoy management with Orkney Islands Council, ports team and Police.	
13. Socio-economic, Recreation and Tourism		
Procurement	Subject to procurement process and procedures the Applicant will: ▪ maximise local presence and begin early – identify potential suppliers and increase visibility in the local area; ▪ work with local authorities and business groups to gain information on local expertise and spread the message to local businesses; ▪ leverage primary contractors – ensure that primary contractors also consider the impact that they can make in the local area; ▪ provide the right information – give information in plenty of time and in the right format so that local businesses are able to prepare; ▪ communicate technical requirements early – provide opportunities for local companies to upskill and form local consortia; and ▪ having inserted local-content commitments in the planning application where applicable, undertake post-construction auditing.	Pre-construction
14. Aviation and Radar		
Turbine lighting	If requested infrared lighting will be fitted to all the wind turbines.	Pre-construction/construction
15. Shadow Flicker		
Shadow Flicker	Prior to the erection of the first turbine a written scheme (known as the 'Wind Farm Shadow Flicker Protocol') shall be submitted to and approved in writing by OIC. This would set out mitigation measures to alleviate shadow flicker	Pre-construction / operation

Subject Area	Commitment	Timing
	attributable to the Proposed Development as well as a protocol for addressing a complaint received from a receptor within the study area. Operation of the turbines would be required to take place in accordance with the approved Shadow Flicker Protocol and any mitigation measures that have been agreed through the protocol would require to be implemented as appropriate.	
Shadow Flicker	The relevant technology which will allow for the automatic shutdown of the turbine will be fitted to the Proposed Development turbines and details included within the 'Wind Farm Shadow Flicker Protocol'.	Pre-construction
16. Other Issues		
Telecommunications	The Proposed Development will have a micro-siting allowance of up to 50 m in all directions in respect of each turbine and its associated infrastructure in order to address any potential difficulties which may arise in the event that preconstruction surveys identify unsuitable ground conditions or environmental constraints that could be avoided. In order to ensure this micro-siting allowance does not impact upon telecommunication links, turbine T5 will not be micro-sited between 141° and 341°. No micro-siting will be undertaken that results in an increase in the significance of adverse effects.	Pre-construction
Television	Should a complaint arise from a resident on the north-west corner of Shapinsay, southern half of Eday or Sanday the Applicant will fully investigate and provide alternative television reception, for example a satellite dish, should it be determined that the Proposed Development is the cause of an unacceptable level of interference.	Operation
Marine Radar	In order to mitigate for the potential impacts to marine radar by the Proposed Development the Applicant proposes that a bond will be in place for the first 12 months of operation. The bond would be released after 12 months at the discretion of the Department of Marine Services assuming no unacceptable impacts from the wind farm. The value of the bond will be agreed between the Applicant and Marine Services	Operation (first 12 months only)
Dust	A Dust and Air Pollution Management Plan will be included within the CEMP (refer to Appendix 3.2 for further details). This will include, but is not limited to: ▪ maintaining a water bowser on site to suppress dust along the access tracks as required;	Pre-construction / construction

Subject Area	Commitment	Timing
	▪ using a water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site; ▪ ensuring fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during deliver; ▪ ensuring sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case it will ensure that appropriate control measures are in place; and ▪ stripping of topsoil will occur as close as reasonably practicable to the period of excavation or other earthworks activities to avoid risks associated with run-off or dust generation.	

This page is intentionally blank.