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MARINE SCOTLAND - LICENSING OPERATIONS TEAM'S ASSESSMENT OF THE PROJECT'S IMPLICATIONS FOR DESIGNATED SPECIAL AREAS OF CONSERVATION AND SPECIAL PROTECTION AREAS IN VIEW OF THE SITES' CONSERVATION OBJECTIVES

APPLICATION FOR A CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 FOR THE GENERATION OF ELECTRICITY AT THE BILLIA CROO WAVE TEST SITE

SITE DETAILS: EUROPEAN MARINE ENERGY CENTRE, BILLIA CROO WAVE TEST SITE, ORKNEY

Name	Assessor or Approver	Date
Marc MacFarlane	Assessor	3 December 2021
Louise Msika	Approver	1 March 2022

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SECTION 1: BACKGROUND

1 Appropriate assessment conclusion

1.1 This appropriate assessment ("AA") concludes that there will be no adverse effect on the site integrity of the of the Hoy Special Protection Area ("SPA"), the Scapa Flow SPA or the Sanday Special Area of Conservation ("SAC") from the European Marine Energy Centre ("EMEC") proposal either in isolation or in combination with other plans or projects, providing that the conditions set out in Section 4 are complied with.

1.2 Marine Scotland - Licensing Operations Team ("MS-LOT") consider that the most up to date and best scientific advice available has been used in reaching the conclusion that the EMEC proposal will not adversely affect the integrity of these sites and is satisfied that no reasonable scientific doubt remains.

2 Introduction

2.1 This is a record of the AA undertaken by MS-LOT in regards to the EMEC proposal to carry out electricity generation at the wave test site at Billia Croo, Orkney. This assessment is required under regulation 63 of the Conservation of Habitats and Species Regulations 2017 ("the 2017 Habitats Regulations"). Scottish Ministers, as the 'competent authority' under the 2017 Habitats Regulations, must be satisfied that the project will not adversely affect the integrity of any European site (SAC and SPA) before it can grant consent for the project.

NatureScot, operating name of Scottish Natural Heritage, has been consulted. Specialist advice was also sought and received from Marine Scotland Science ("MSS").

3 Details of proposed project

3.1 EMEC proposes to generate up to 20 MW of electricity at the Billia Croo wave testing site 2.2 km west of the Mainland, Orkney coastline. The work site will consist of seven individual berths, each roughly 0.5 km apart from one another, and covering approximately 11 km^2 in total. The works have been situated here to take advantage of one of the highest wave energy potentials in Europe. The proposal would see a maximum of 20 Wave Energy Converter's ("WECs") installed at any one time, and removed following testing. WECs could be active within this maximum capacity from approval through to 2040.

3.2 WECs will be used to generate the electricity, and device types that could be used include:

- Over-topping Device
- Oscillating Wave Surge Converter
- Submerged Pressure Differential
- Oscillating Water Column
- Attenuator
- Point Absorber
- Bulge Wave
- Rotating Mass

3.3 Each WEC is subject to the following maximum parameters:

a) a maximum length of 200 metres; and
b) a maximum width of 12 metres.

Or

a) a maximum length of under 50; and
b) a maximum width of 30 metres.

and

a maximum distance from the sea surface of 12 metres above Mean Low Water Springs for surface piercing elements (excluding navigational and communication equipment)

3.4 Infrastructure and materials associated with the WECs, including moorings, foundations and electrical hubs, are subject to maximum parameters as specified in Section 5.2.1. of the Project Envelope (link).

4 Consultation

4.1 NatureScot was initially consulted on the EMEC proposal on 01 July 2019 and provided its response on 15 August 2019. Following an addendum submission by EMEC, NatureScot was consulted again on 27 August 2021 and provided its response on 23 September 2021.

4.2 Specialist advice was requested from MSS on 23 July 2019 and received on 23 August 2019. Further specialist advice was provided on 24 January 2020.

5 Main points raised during consultation

5.1 NatureScot's response on 23 September 2021 had no further comments following the addendum and referred MS-LOT back to the 15 August 2019 advice. In 2019, NatureScot advised that the proposal is likely to have a significant effect on the red-throated diver qualifying interest of the Hoy SPA and the Scapa Flow SPA and also the harbour seal qualifying interest of the Sanday SAC. NatureScot therefore advised that an AA is required.

5.2 NatureScot confirmed in its response that there would be no likely significant effects ("LSE") on the following qualifying interests and SACs due to the limited potential for connectivity:

- Faray and Holm of Faray SAC - grey seal
- Moray Firth SAC - bottlenose dolphin
- Inner Hebrides and the Minches SAC - harbour porpoise
- Skerries and Causeway SAC - harbour porpoise

5.3 Consequently, the above sites will not be considered further in this assessment.

5.4 MSS agreed with the advice given by NatureScot in relation to LSE on designated sites.

SECTION 2: INFORMATION ON EUROPEAN SITES

6 Background information and qualifying interests for the relevant European sites

6.1 This section provides links to the NatureScot SiteLink website ("SiteLink") where the background information on the sites being considered in this assessment is available. The qualifying interests for the sites are listed, as are the conservation objectives.

Table 1 Name of European sites affected and relevant link(s) to SiteLink

Hoy SPA https://sitelink.nature.scot/site/8513 **Scapa Flow SPA** https://sitelink.nature.scot/site/10510 **Sanday SAC** https://sitelink.nature.scot/site/8372

Table 2 Qualifying interests

Hoy SPA

- Arctic skua (*Stercorarius parasiticus*), breeding
- Fulmar (*Fulmarus glacialis*), breeding
- Great black-backed gull (*Larus marinus*), breeding
- Great skua (*Stercorarius skua*), breeding
- Guillemot (*Uria aalge*), breeding
- Kittiwake (*Rissa tridactyla*), breeding
- Peregrine (*Falco peregrinus*), breeding
- Puffin (*Fratercula arctica*), breeding
- Red-throated diver (*Gavia stellata*), breeding
- Seabird assemblage, breeding

Scapa Flow SPA

- Black-throated diver (*Gavia arctica*), non-breeding
- Eider (*Somateria mollissima*), non-breeding
- Goldeneye (*Bucephala clangula*), non-breeding
- Great northern diver (*Gavia immer*), non-breeding
- Long-tailed duck (*Clangula hyemalis*), non-breeding
- Red-breasted merganser (*Mergus serrator*), non-breeding
- Red-throated diver (*Gavia stellata*), breeding
- Shag (*Phalacrocorax aristotelis*), non-breeding
- Slavonian grebe (*Podiceps auritus*), non-breeding

Sanday SAC

- Harbour seal (*Phoca vitulina*)
- Intertidal mudflats and sandflats
- Reefs
- Subtidal sandbanks

Table 3 Conservation objectives

Hoy SPA

To avoid deterioration of the habitats of the qualifying species (listed above) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

Scapa Flow SPA Conservation Objectives

The following conservation objectives are still in draft form and have not yet been agreed.

To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, subject to natural change, thus ensuring that the integrity of the site is maintained in the long-term and it continues to make an appropriate contribution to achieving the aims of the Birds Directive for each of the qualifying species.

This contribution will be achieved through delivering the following objectives for each of the site's qualifying features:

a) Avoid significant mortality, injury and disturbance of the qualifying features, so that the distribution of the species and ability to use the site are maintained in the long-term;
b) To maintain the habitats and food resources of the qualifying features in favourable condition.

Sanday SAC

To avoid deterioration of the qualifying habitats (listed above) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying habitats that the following are maintained in the long term:

- Extent of the habitat on site
- Distribution of the habitat within site
- Structure and function of the habitat
- Processes supporting the habitat
- Distribution of typical species of the habitat
- Viability of typical species as components of the habitat
- No significant disturbance of typical species of the habitat

To avoid deterioration of the habitats of the qualifying species (listed above) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying species that the following are established then maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

SECTION 3: ASSESSMENT IN RELATION TO REGULATION 63 OF THE CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2017

7 Requirement for appropriate assessment

7.1 Is the project directly connected with or necessary to the conservation management of the site(s)?

The project is not directly connected with or necessary to the conservation management of the sites.

7.2 *Is the project likely to have a significant effect on the qualifying interest(s)?*

In its response, dated 15 August 2019, NatureScot advised that the proposal would have LSE on the following qualifying interests:

Hoy SPA

- Red-throated diver (*Gavia stellata*), breeding

Scapa Flow SPA

- Red-throated diver (*Gavia stellata*), breeding

Sanday SAC

- Harbour seal (*Phoca vitulina*)

Impacts on the above qualifying interests are likely to arise from vessel disturbance and additionally for harbour seals, from underwater noise.

MS-LOT agrees with NatureScot's advice and has undertaken an AA for the above listed qualifying interests of the Hoy SPA, Scapa Flow SPA and Sanday SAC.

8 Appropriate assessment of the implications for the site in view of the site's conservation objectives

8.1 <u>Hoy SPA & Scapa Flow SPA</u>

8.1.1 <u>Red-throated diver</u>

8.1.2 NatureScot advised that the red-throated diver population from the Hoy SPA has shown recent declines in breeding success and there is evidence of a shrinking and aging population of adult divers. This population (and hence also the Scapa Flow SPA population) is potentially very vulnerable to additional pressures. NatureScot further advised that red throated divers are known to be sensitive to disturbance, particularly from vessels.

8.1.3 The applicant considers this in their environmental appraisal submitted as part of the application. The environmental appraisal considers that there is the potential for disturbance of red-throated divers from vessel activity however, the low use of the test site by red-throated divers, the wide local availability of alternative habitat in relation to the small scale of the test site and the activities included in the project envelope mean that any disturbance will not negatively impact the conservation objectives for either of the two connected SPAs. It is also acknowledged that disturbance during the breeding season could lead to the occasional displacement from foraging areas of very low numbers of individuals which may be part of the Hoy or Scapa Flow red-throated diver qualifying feature. The birds affected could incur minor losses in foraging time leading to minor reductions in provisioning rates during chick rearing. However, given that only a small proportion of the SPA population could plausibly be affected, the expected small magnitude of the effects on individuals affected and the wide local availability of alternative habitat, the environmental appraisal concludes that the disturbance will not be significant and will not compromise the integrity of the designated sites.

8.1.4 NatureScot advised that the greatest impacts are likely to arise during simultaneous operations on site and potentially vessel transits at sensitive times or in sensitive locations. In view of the potential for the simultaneous operation of up to twelve vessels at the test site at any one time, for major marine works to span one month in duration and transit routes likely to pass through the Scapa Flow SPA, NatureScot advised that a site-wide Vessel Management Plan (“VMP”) should be developed. This should cover principles of appropriate vessel behaviour during sensitive breeding periods both within the wave test site and for likely transit routes to and from the site, as well as consideration of lay-up areas away from key areas in order to reduce potential effects.

8.1.5 MSS supports the assessment carried out by NatureScot which identified vessel transits as the key potential impact pathway. MSS notes the applicant’s statement that a VMP will be prepared by each developer for each project at the Billia Croo site, however concurs with the view of NatureScot that a site wide VMP would be useful. MSS advises that this would facilitate the adoption of a unified approach for vessel management to be taken across projects and for cumulative effects to be considered at a more strategic level.

8.1.6 MS-LOT concurs with the view of NatureScot that providing a VMP is approved prior to commencement of works, there will be no adverse effect on the site integrity of the Hoy SPA or the Scapa Flow SPA from the EMEC project at Billia Croo in isolation.

8.2 Sanday SAC

8.2.1 Harbour seal

8.2.2 NatureScot agrees with the applicant's environmental appraisal that there is continued uncertainty in the understanding of impacts to marine mammals from underwater noise sources including those likely to be generated by some of the marine works and activity at the wave test site. NatureScot commented that the project envelope developed for the site wide approach is helpful in understanding the likely worst case scenarios for noisy activities and equipment. NatureScot agree that subject to project-specific information and use of appropriate mitigation such as the EMEC Marine Mammal Observer ("MMO") included within the EMEC Marine Mammal Recording Protocol, auditory injury can be avoided.

8.2.3 NatureScot advised that consideration of the potential for disturbance effects is likely to require specific project and site-based information particularly given the potential for simultaneous operations including the use of up to twelve vessels on site at any one time. NatureScot recommends that a site-wide VMP is developed in consultation with appropriate stakeholders including Orkney Harbour Authority and the Maritime and Coastguard Agency to cover principles of appropriate vessel behaviour particularly in sensitive locations (e.g. constricted channels, designated seal haul-outs) both within the wave test site and for likely transit routes to and from the site in order to reduce potential effects. This should include following the principles outlined in the Scottish Marine Wildlife Watching Code.

8.2.4 MSS agrees with the identified pathways of potential impact in the environmental appraisal and recommends that project specific assessments are carried out.

8.2.5 MS-LOT concurs with the view of NatureScot that, providing the mitigation measures detailed above are followed, there is unlikely to be an adverse effect on the site integrity of the Sanday SAC from the EMEC proposal in isolation. This will be confirmed by project specific assessments which will identify if any further mitigation measures are required.

8.3 MS-LOT concurs with the view of NatureScot and MSS that providing the conditions in Section 4 are adhered to, this project in isolation will not have an adverse effect on the integrity of the Hoy SPA, Scapa Flow SPA or Sanday SAC. However, further project specific assessments should be carried out prior to the granting of any marine licences to identify if further conditions are required to ensure that this conclusion remains valid.

9 In-combination assessment

9.1 MS-LOT has carried out an in-combination assessment to ascertain whether the EMEC proposal will have a cumulative effect with other plans or projects which, in combination, would have the potential to affect the red-throated divers of the Hoy SPA and Scapa Flow SPA or the harbour seals of the Sanday SAC.

9.2 The following projects currently have an active marine licence, section 36 consent or European protected species licence and associated AA which identified LSE on the Hoy SPA, Scapa Flow SPA or the Sanday SAC.

9.3 Beatrice Offshore Windfarm Limited

9.3.1 Installation and operation of the Beatrice Offshore Windfarm, which is located in the outer Moray Firth 13.5 km from the Caithness coast. The total area of the development is 131.5 km^2. The development will comprise of 84 turbines. The eastern edge of the development site is adjacent to the proposed Moray Firth Offshore Renewables Limited Eastern Development Area. The operational lifespan of the wind farm is expected to be 25 years. Construction started in April 2017 and the final turbine was installed in May 2019.

9.3.2 Further information regarding the project can be found here.

9.3.3 The AA for this project identified the potential for LSE only on the puffin, arctic skua and great skua features of the Hoy SPA. The EMEC proposal only has LSE on the red-throated diver feature. As there is no overlap in the affected features, no further in-combination considerations are necessary.

9.4 Moray East Offshore Wind Farm

9.4.1 The current design envelope is for a maximum generating capacity of up to 1116 MW and for a maximum of 186 wind turbines. The proposals are located on the Smith Bank in the outer Moray Firth (approximately 22 km from the Caithness coastline, in water depths of 38-57 m). The operational lifespan of the wind farms is expected to be 25 years.

9.4.2 The three wind farm sites: the Telford, Stevenson and MacColl wind farms lie within the Eastern Development Area, part of Zone 1 of Round 3 leasing agreements in the UK Renewable Energy Zone. Substructure and foundation design for the wind turbines will consist of steel lattice jackets with pin piles.

9.4.3 Construction of the wind farms is nearing completion. Further information regarding the development can be found here.

9.4.4 The AA for this project identified the potential for LSE on the puffin, Arctic skua and great skua features of the Hoy SPA. These features are not likely to be affected by the EMEC proposal and therefore no further consideration of in-combination effects is required.

9.5 MeyGen Tidal Energy Park

9.5.1 This project involves the construction and operation of a tidal array in the Inner Sound of the Pentland Firth. Phase 1A of the project is complete with 4 tidal turbines having been installed. Phase 1B of the project (also known as Project Stroma) consists of installation of a subsea hub and 2 tidal turbines. The subsea hub was fully installed in August 2020. Installation of the 2 tidal turbines from Phase 1B is currently on hold until there is confirmation of funding. Phase 1C will be the deployment of the remaining tidal turbines which and is also on hold until funding is confirmed.

9.5.2 Further information regarding the project can be found here.

9.5.3 The AA for this project identified the potential for LSE on the great black-backed gull, great skua, Arctic skua, red-throated diver, black-legged kittiwake, Atlantic puffin and common guillemot of the Hoy SPA.

9.6 EMEC - Tidal Test Site - Fall of Warness

9.6.1 In addition to the wave test site at Billia Croo, EMEC also operate a tidal test site at the Fall of Warness to the west of the island of Eday. This has 8 berths assigned to different developers and has been in operation since 2005. The key design envelope parameters are provided below:

- Installation and maintenance of sub-sea cable and associated cable protection systems
- A maximum of 9 berths accommodating up to 12 tidal energy devices with up to 18 rotors
- Maximum rotor diameter of 25 m
- Minimum depth -2.5 m clearance from the sea surface
- Deployment of scientific instrumentation and associated cabling
- Testing of buoys
- Testing of mooring arrangements or individual stand-alone components of devices. Moorings must be installed using non-percussive methods.

9.6.2 Further information regarding the project can be found here.

9.6.3 The AA for this project identified the potential for LSE on the harbour seal population of the Sanday SAC. One of the potential pathways for these effects was vessel traffic.

9.7 Dounreay Tri Floating Wind Demonstration Project

9.7.1 The development will consist of a demonstration floating offshore windfarm called Dounreay Tri approximately 6 km off Dounreay, Caithness. The main offshore components will include two offshore wind turbines with an installed capacity of 8 to 12 MW, a floating foundation, mooring clump weight, mooring chain and/or steel lines, drag embedment anchors, a 33 kV export cable and scour protection for the anchors and the export cable where necessary.

9.7.2 Further information regarding the project can be found here.

9.7.3 The consents associated with this project have been bought by a new developer after the previous developer went into administration. Though work is expected to commence in the coming years, it is currently inactive.

9.7.4 The AA for this project identified the potential for LSE on the common guillemot, Arctic puffin, Northern fulmar, great skua, kittiwake and great black-backed gull of the Hoy SPA. As there is no overlap in the affected features no further assessment of in-combination effects is required.

9.8 Pentland Ferries - Extension to Marshalling Area - St. Margaret's Hope

9.8.1 This project is to extend the marshalling area at St Margaret's Hope pier by 2873 m^2 to accommodate a larger ferry. The seaward face will consist of sheet piles set in to a concrete foundation with a concrete wall cast against the inner face of the piles and the area will be backfilled with quarried stone, boulders and secondary aggregate. Following settlement, a concrete deck slab will be cast on top of the temporary surface.

9.8.2 The initial works are scheduled to take 12 months and then following settlement, a further 6 months of work will be required to install the deck slab. Works started in August 2018 and are scheduled to be complete by August 2022.

9.8.3 The AA for this project identified the potential for LSE on red-throated diver, great-northern diver, eider, goldeneye, long-tailed duck, red-breasted merganser, shag and Slavonian grebe qualifying interests of the Scapa Flow SPA.

9.9 Scottish Hydro Electric Power Distribution ("SHEPD") - Geophysical Surveys - North Coast and Orkney Islands Marine Region

9.9.1 Geophysical surveys across the North Coast and Orkney Islands marine region. Works will involve the use of:

- Ultra-short Baseline ("USBL") with source level of 200 dB re 1 µPa (rms), with a source frequency of 24-33.5 kHz
- Sub-bottom Profiler ("SBP") with source level of 235 dB re 1 µPa (rms), with a source frequency of between 4-100 kHz
- SBP/Side-scan Sonar ("SSS") with a source level of 230 dB re 1 µPa (rms), with SBP frequency ranging between 0.5-12 kHz

9.9.2 The proposal is due to run from 26 June 2020 to 31 March 2023. Vessel presence and survey activities are expected to take 67 days in total, with an additional 12 hours for equipment calibrations for each survey mobilisation. The total survey area covers approximately 201 km^2.

9.9.3 NatureScot advised the proposal is likely to have a significant effect on the qualifying bird species of Hoy SPA and Scapa Flow SPA. These include red throated divers and one of the potential pathways for disturbance, identified in the project Risk Assessment, is the presence of survey vessels. LSE was also identified on the harbour seal population of Sanday SAC from the presence of vessels nearshore.

9.10 SHEPD - Cable Installation from Orkney to Murkle Bay, Caithness

9.10.1 SHEPD proposes to install a 33 kV High Voltage Alternating Current ("HVAC") cable from Radwick Bay, Orkney to Murkle Bay, Caithness. The existing Pentland Firth East and Pentland Firth West power cables being replaced will remain in situ. The proposed cable route is approximately 36 km long with a 500 m wide corridor.

9.10.2 Prior to installation of the cable, pre-lay surveys including geophysical surveys using USBL acoustic positioning, SSS, and multibeam echosounders as well as benthic and geotechnical surveys (vibrocoring and/or piezocone penetration testing) will be undertaken. A pre-lay grapnel run will be undertaken to clear the route of any debris identified. Mattresses will be installed over any cable crossings identified with at least two being employed over the known fibre optic cables intersecting the route. The cable will then be pulled in and surface laid, with trenching and cable protection being employed in sensitive areas or in areas that require additional protection. Protection measures identified as possible options include rock, cast iron shells, high density polyethylene ducting or the use of concrete mattresses depending on

which solution is the most suitable based on the location or seabed type. Works are scheduled to take place over a period of approximately 150 days, with the licence starting on 03 July 2020 and ending 02 July 2025.

9.10.3 NatureScot advised the proposal is likely to have a significant effect on the red-throated diver populations of both Hoy SPA and Scapa Flow SPA. One of the potential pathways for disturbance, identified in the project Risk Assessment, is the presence of vessels.

9.11 Scottish Hydro Electric Transmission ("SHET") - Cable Installation - Shetland to Caithness

9.11.1 SHET propose to install a 254 km High Voltage Direct Current cable between Weisdale Voe in Shetland and Noss Head in Caithness. SHET anticipate that the whole project will take place over a period of approximately three years. SHET has identified a 200 m wide corridor in which the cable will be installed.

9.11.2 At the cable landfall points, Horizontal Directional Drilling techniques will be employed. Ten bores (five at Noss Head and five at Weisdale Voe) will be drilled from above Mean High Water Springs and exit onto the seabed an estimated 750 m to 1,000 m offshore. At the location where the drill emerges on to the seabed approximately 200 m^3 of drilling fluid and cuttings will be released. SHET also propose to trench between 238.5 km and 250.8 km of the cable. Where burial is not achievable the cable will be protected by rock placement, concrete mattresses or cable protection. SHET estimate 3 km of seabed features will require pre-sweep or pre-lay rock placement. Objects encountered that are identified as isolated or discarded shall be cleared using an orange peel grab or grapnel.

9.11.3 NatureScot advised the proposal is likely to have a significant effect on the harbour seal population of Sanday SAC. The disturbance pathway identified was vessel presence.

9.12 SHET - Cable Installation - Orkney to Dounreay

9.12.1 SHET propose to install a 220 kV HVAC cable from Warebeth, Orkney to Dounreay, Caithness. The proposed cable route is approximately 53 km long with a 200 m wide corridor. The works were scheduled to start in June 2020 with the preparation of the HDD boreholes which was scheduled to last until March 2021. The route will then be surveyed and cleared of any obstructions between May 2022 and June 2022. The installation of the cable, using the method above, is scheduled to commence in June 2022 and continue until October 2022.

9.12.2 To install the cable, HDD techniques will be employed to install 700 mm ducts from the cliff top at each landfall site. The proposed HDD break out point at Warebeth is up to 900 m from landfall and up to 1005 m at Dounreay. The cable will be continuously pulled through these ducts from land to sea at Warebeth or Dounreay. The process is then reversed at the opposite end of the route, where the cable will be pulled ashore. Furthermore, the seabed will be trenched, where possible, using either a trencher or a plough and the cable buried through either natural backfilling, imported rock or a backfilling tool to push the previously excavated material back into the trench. Where burial is not achievable, the cable will be protected by other means such as rock, cast iron shells, high density polyethylene ducting or the use of concrete mattresses.

9.12.3 NatureScot advised the proposal is likely to have a significant effect on the red-throated diver population of Hoy SPA. The disturbance pathway identified was vessel presence.

9.13 Scottish Sea Farms Ltd - Finfish Farm - Hunda Bay

9.13.1 Scottish Sea Farms Ltd applied to deposit a new finfish farm at Hunda in Scapa Flow, Orkney. The finfish farm comprises 12 ring cages of 100 m diameter, one 200 tonne feed barge and 28 grid moorings in a 60 m grid.

9.13.2 NatureScot advised that the project would have a likely significant effect on the Scapa Flow SPA however there would be no adverse effect on the integrity of the site providing that the identified mitigation measures were implemented. The site's planning permission includes conditions relating to the mitigation measures identified in the AA.

9.13.3 NatureScot advised the proposal is likely to have a significant effect on the red-throated diver population of Scapa Flow SPA. The disturbance pathway identified was vessel presence.

9.14 Discharge from Wellboats - Various Finfish Farms

9.14.1 A number of marine licences were granted to allow the discharge of chemotherapeutants from wellboats alongside the cages at finfish farms in the Scapa Flow SPA. Azamethiphos, deltamethrin, cypermethrin and hydrogen peroxide are used in the treatment of sea lice. A marine licence will not be issued until the Scottish Environment Protection Agency ("SEPA") have issued a CAR licence for the discharge of the same chemicals using the tarpaulin method. As part of the CAR licensing process, SEPA carry out a bespoke modelling process to determine the amount of each chemical that can be discharged and remain below set environmental quality standards. These

amounts are conditioned on the marine licences to ensure that there will be no adverse environmental effects from the discharge.

9.14.2 The pathway of effect on birds from the discharge from wellboats is indirect toxicity through consumption of prey. Providing the conditions of the AA are adhered to, the zone of effect will be small so the likelihood of birds consuming sufficient contaminated prey to cause a significant effect is low.

9.15 In-combination assessment for Hoy SPA

9.15.1 The following projects were identified as having the potential to have LSEs on the Hoy SPA and in-combination effects were not discounted above:

- MeyGen Tidal Energy Park (Section 10.5)
- SHEPD - Geophysical Surveys - North Coast and Orkney Islands Marine Region (Section 10.9)
- SHEPD - Cable Installation from Orkney to Murkle Bay, Caithness (Section 10.10)
- SHET - Cable Installation - Orkney to Dounreay (Section 10.12)

9.15.2 The main pathway of effect on the Hoy SPA from the works at Billia Croo will be from vessel movement. The project area for Meygen Tidal Energy Park was not identified as an important foraging area for divers and disturbance from vessels was considered to be temporary and over a limited area. Vessel disturbance was also identified the main pathway of effects in the other projects mentioned above. However, due to the limited impact from the Meygen project and providing the conditions in this AA in relation to a VMP are adhered to there are unlikely to be any adverse effects on site integrity.

9.15.3 In addition, no in-combination effects were identified in consultation with either NatureScot or MSS. MSS noted that, while NatureScot believed that red-throated divers could be particularly vulnerable to vessel disturbance in the Hoy SPA, the Billia Croo test site is used only infrequently by the species. MSS concurred with these statements.

9.15.4 MS-LOT concludes that there will be no adverse effect on the site integrity of the Hoy SPA from in-combination effects providing the conditions of the AA's for all of the above projects are adhered to.

9.16 In-combination assessment for Scapa Flow SPA

9.16.1 The following projects were identified as having the potential to have LSEs on the Scapa Flow SPA and in-combination effects were not discounted above:

- Pentland Ferries - Extension to Marshalling Area - St Margaret's Hope (Section 10.8)
- SHEPD - Geophysical Surveys - North Coast and Orkney Islands Marine Region (Section 10.9)
- SHEPD - Cable Installation from Orkney to Murkle Bay, Caithness (Section 10.10)
- Scottish Sea Farms Ltd - Finfish Farm - Hunda Bay (Section 10.13)

9.16.2 The AA for the Pentland Ferries project assessed the noise from the works and concluded that it was unlikely to result in significant disturbance as the works are taking place adjacent to a working pier and the number of birds present is very low.

9.16.3 The AAs for the SHEPD projects both identified vessel traffic as the main pathway of disturbance on the red-throated diver population of Scapa Flow SPA.

9.16.4 Vessel traffic issues were identified in the AA for the Hunda Bay finfish farm. However, the red-throated diver was not identified as one of the species likely to be affected by this. Consequently, MS-LOT is content this project will not cause any in-combination effects.

9.16.5 No in-combination effects were identified in consultation with either NatureScot or MSS.

9.16.6 MS-LOT concludes that providing the conditions of this AA and those for the SHEPD and fish farm projects are adhered to, there will be no adverse effect on the integrity of the Scapa Flow SPA from the combination of these projects.

9.17 <u>In-combination assessment for Sanday SAC</u>

9.17.1 The following projects were identified as having the potential to have LSE on the Sanday SAC and in-combination effects were not discounted above:

- EMEC - Tidal Test Site - Fall of Warness (Section 10.6)
- SHEPD - Geophysical Surveys - North Coast and Orkney Islands Marine Region (Section 10.9)
- SHET - Cable Installation - Shetland to Murkle Bay, Caithness (Section 10.11)

9.17.2 The AA for the EMEC tidal energy site at Fall of Warness identified the potential for LSE on the harbour seal qualifying interest of the Sanday SAC. The AA concluded that there would be no adverse effect on site integrity if conditions, including the use of a Marine Mammal Observer Protocol and

exclusion of installation and maintenance vessels from the vicinity of haul outs, particularly during breeding season were adhered to, there would be no adverse effect on site integrity. This conclusion was supported by research suggesting that the majority of the seals using the Fall of Warness area were not from the Sanday population. Adherence to the Scottish Marine Mammal Wildlife Watching Code ("SMWWC") during all vessel based activities was also a condition of the AA.

9.17.3 The AAs for the SHEPD and SHET projects both identified vessel traffic as the main pathway of disturbance on the harbour seal population of Sanday SAC and included appropriate mitigation measures including consideration of the timing, duration and speed of vessel transits and adherence to the SMWWC.

9.17.4 MSS support the conclusions above, saying that the activities assessed will not adversely affect the integrity of Sanday SAC, alone or in-combination with other developments.

9.17.5 MS-LOT therefore concludes that providing the conditions in the SHEPD and SHET AA's as well as the conditions in this AA and the Fall of Warness AA are adhered to, and those in any associated marine licences for the EMEC sites, there will be no adverse effect on the site integrity of the Sanday SAC from in-combination effects.

10 MS-LOT Conclusion

10.1 **MS-LOT concludes that providing the conditions listed in Section 4 are adhered to along with any conditions in associated marine licences for projects at the Billia Croo site, there will be no adverse effect on the site integrity of the Hoy SPA, Scapa Flow SPA or Sanday SAC from the EMEC proposal either in isolation or in combination with other projects.**

SECTION 4: CONDITIONS

11 Requirement for conditions

11.1 The following conditions are required to prevent an adverse effect on the site integrity of the Hoy SPA, Scapa Flow SPA and Sanday SAC:

11.1.1 <u>Vessel Management Plan</u>

The Company must, within 3 months of the Section 36 consent and prior to the extension area becoming operational, or at an alternative date as agreed with the Scottish Ministers, submit a Development wide Vessel Management Plan

("VMP"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with NatureScot, MCA, NLB, Orkney Islands Council Harbour Authority, SFF, OFA and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The VMP must include, but not be limited to, the following details:

a) The number, types and specification of vessels required during construction, operation and maintenance activities;
b) The manner in which vessel management will be coordinated, during simultaneous construction, operation and decommissioning activities on the Development;
c) Define principles of appropriate vessel behaviour (including the Scottish Marine Wildlife Watching Code) during sensitive breeding periods for the red throated diver and to avoid potential entanglement/injury to marine mammals;
d) Define a 500 meter buffer around all designated haul-out sites;
e) Location of working port(s), the routes of passage, the frequency with which vessels will be required to transit between port(s) and the site and indicative vessel transit corridors proposed to be used during construction and operation of activities on the Development;

The VMP must, so far as is reasonably practicable, be consistent with the Navigational Risk Assessment.

11.1.2 Marine Mammal Recording Protocol

The Company must ensure that the Marine Mammal Recording Protocol ("MMRP") for the Development, submitted with the Application, is available to all users of the Development. The MMRP must be regularly reviewed at intervals agreed with the Scottish Ministers and any updated versions of the MMRP must be submitted to the Scottish Ministers for their written approval. Such approval may only be granted following consultation with NatureScot and any such other advisers as may be required at the discretion of the Scottish Ministers.

11.2 In addition to any conditions identified through project specific assessments, the following conditions must be added to any marine licences issued for projects at the Billia Croo site:

11.2.1 The licensee must ensure that the works are carried out in adherence with the site wide Vessel Management Plan ("VMP") approved by the licensing authority for all works at the Billia Croo site. In the event that the licensee

wishes to deviate from the approved site wide VMP, a project specific VMP must be submitted to the licensing authority for their written approval, no later than two months or at such a time as agreed with the licensing authority, prior to the planned commencement of works. Works must not commence, unless in accordance with the site wide VMP, or until the project specific VMP has been approved.

11.2.2 The licensee must ensure that all personnel adhere to the EMEC Marine Mammal Recording Protocol during all construction, operation, maintenance and decommissioning activities.