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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 MARINE LICENCE UNDER THE MARINE (SCOTLAND) ACT 2010 FOR CONSTRUCTION, DREDGING AND DEPOSIT OF DREDGED SUBSTANCES OR OBJECTS ASSOCIATED WITH THE ST. OLA PIER REDEVELOPMENT

SITE DETAILS: ST. OLA PIER, SCRABSTER HARBOUR, SCRABSTER

Name	Assessor or Approver	Date
Neil Macleod	Assessor	17/01/2020
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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 River Thurso Special Area of Conservation ("SAC"), Moray Firth SAC, or North Caithness Cliffs Special Protection Area ("SPA") from the Scrabster Harbour Trust ("SHT") 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") considers that the most up to date and best scientific advice available has been used in reaching the conclusion that the SHT proposal will not adversely affect the integrity of the River Thurso SAC, Moray Firth SAC or North Caithness Cliffs SPA and is satisfied that no reasonable scientific doubt remains.

2 Introduction

- 2.1 This is a record of the AA undertaken by MS-LOT required under Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) ("the Regulations") in regards to the SHT proposal to carry out marine construction, dredging and deposit of dredged substances or objects associated with the redevelopment of the St. Ola Pier, Scrabster Harbour (hereinafter referred to as "the Project").. This AA is in accordance with Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora and Council Directive 2009/147/EC on the conservation of wild birds. MS-LOT, as the 'competent authority' under the Regulations, has to be satisfied that the Project will not adversely affect the integrity of any European site (SAC or SPA, known as Natura sites), either alone or in combination with other plans or projects, before it can grant consent for the Project.
- 2.2 A detailed AA has been undertaken and Scottish Natural Heritage ("SNH") has been consulted.

3 Details of proposed project

- 3.1 The existing St. Ola Pier has fallen into declining use due to ongoing corrosion of steel piling and lack of load bearing capacity for imposed deck loads. The proposed redevelopment of St. Ola Pier aims to ensure the ongoing structural integrity of the pier and will cover an area of approximately 85,873m² as shown in Figure 1.

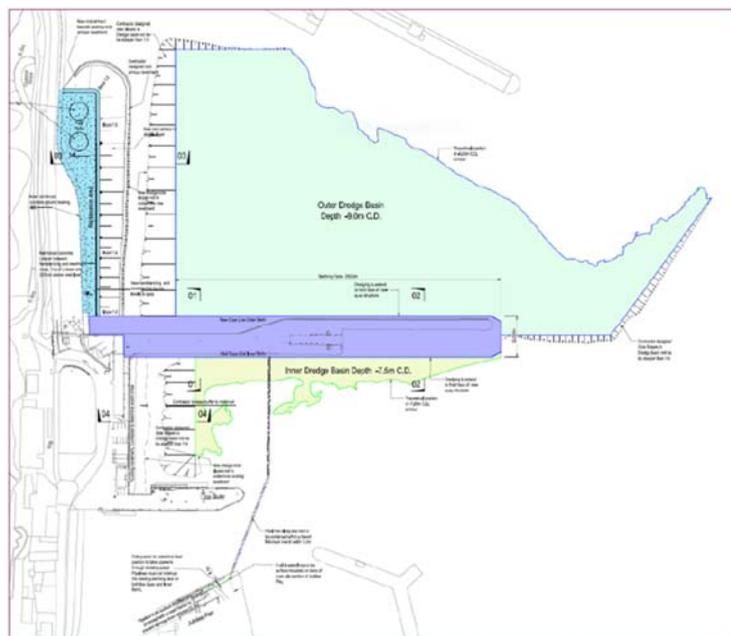


Figure 1: Location and Boundary of the Proposed Works

- 1.1. The Works involve the redevelopment of the existing St. Ola Pier at Scrabster Harbour, including extending the existing pier by 155m to provide an overall pier length of 280m long and width of 32m. This will be achieved through the partial demolition of both the existing pier and revetment to allow new pier walls and decking to be constructed which will lengthen and widen the pier and provide straight berthing faces. Construction of the new pier walls will involve impact piling of up to 230 combi-wall piles over the duration of 115 days between May and October. The volume of demolished material will be approximately 7,400m³, where appropriate this material will be reused, failing which it will be disposed of at landfill.
- 1.2. The Works also include approximately 0.84ha of land reclamation to the north of St. Ola Pier, as shown coloured blue in Figure 1. This will comprise of 0.4ha of compressed dredge material, imported fill or a mixture of both and will be topped with concrete. In addition, 0.44ha of rock revetment will be added for protection and will reuse the rock armour from the existing revetment together with a small additional amount of new rock.
- 1.3. Dredging will be required along the inner and outer face of the pier. The inner area of the pier is to be dredged to -7.5m chart datum ("CD") and the outer area is to be dredged to -9m CD. The total dredge volume is estimated to be 172,000m³ and it is anticipated that 92% of the dredge material will be suitable for re-use within the land reclamation. The excess material together with any material that is found to be unsuitable, up to a maximum of 63,000m³, will be deposited at the Scrabster sea deposit site. The dredging will likely be completed by backhoe dredger given that majority of the dredge material will be reused within the site. A trailer suction hopper dredger might be used in respect of the material which is to be deposited at the Scrabster sea deposit site.

- 3.2 New fuel and water lines are also to be constructed and connected to the redeveloped pier. These lines will either be routed from existing piers utilising trenched lines through the seabed or, in the case of fuel, will have a new tank built on the reclaimed land and the supply directly routed through the reclaimed land to the new pier.

4 Consultation

- 4.1 SNH was consulted on the marine licence applications and supporting information, including an Environmental Impact Assessment Report ("EIA Report") and a Habitats Regulations Appraisal Screening and Report to inform Appropriate Assessment ("HRA Report") on 15 October 2019.
- 4.2 A detailed response was received from SNH and Marine Scotland Science ("MSS") also provided scientific advice on the applications.

5 Main points raised during consultation

- 5.1 SNH advised that the Project would have a likely significant effect on the Atlantic salmon qualifying interest of the River Thurso SAC, the bottlenose dolphin qualifying interest of the Moray Firth SAC as well as the nesting seabird interests of the North Caithness Cliffs SPA.

SECTION 2: INFORMATION ON NATURA SITES

6 Background information and qualifying interests for the relevant Natura sites

- 6.1 This section provides links to the Scottish Natural Heritage Interactive ("SNHi") website 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 Natura site(s) affected and relevant link(s) to SNHi website

<p><u>River Thurso SAC</u> https://sitelink.nature.scot/site/8368</p> <p><u>Moray Firth SAC</u> https://sitelink.nature.scot/site/8327</p> <p><u>North Caithness Cliffs SPA</u></p>
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<https://sitelink.nature.scot/site/8554>

Table 2 European qualifying interests

<p><u>River Thurso SAC</u></p> <ul style="list-style-type: none">• Atlantic salmon (<i>Salmo salar</i>) <p><u>Moray Firth SAC</u></p> <ul style="list-style-type: none">• Bottlenose dolphin (<i>Tursiops truncatus</i>)• Subtidal sandbanks <p><u>North Caithness Cliffs SPA</u></p> <ul style="list-style-type: none">• Fulmar (<i>Fulmarus glacialis</i>), breeding• Guillemot (<i>Uria aalge</i>), breeding• Kittiwake (<i>Rissa tridactyla</i>), breeding• Peregrine (<i>Falco peregrinus</i>), breeding• Puffin (<i>Fratercula arctica</i>), breeding• Razorbill (<i>Alca torda</i>), breeding• Seabird assemblage, breeding
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Table 3 Conservation objectives

<p><u>River Thurso SAC</u></p> <p>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</p> <p>To ensure for the qualifying species that the following are maintained in the long term:</p> <ul style="list-style-type: none">• Population of the species, including range of genetic types, 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

Moray Firth SAC

i) To avoid deterioration of the qualifying habitat (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 habitat 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

ii) 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

North Caithness Cliffs 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

SECTION 3: ASSESSMENT IN RELATION TO REGULATION 48 OF THE CONSERVATION (NATURAL HABITATS, &C.) REGULATIONS 1994

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 site.

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

North Caithness Cliffs SPA

- Fulmar (*Fulmarus glacialis*), breeding
- Guillemot (*Uria aalge*), breeding
- Kittiwake (*Rissa tridactyla*), breeding
- Puffin (*Fratercula arctica*), breeding
- Razorbill (*Alca torda*), breeding
- Seabird assemblage, breeding

7.2.1 The HRA Report identified the potential for LSE on the qualifying interests of the North Caithness Cliffs SPA listed above during the construction phase of the Project arising from;

- Disturbance or displacement as a result of noise; and
- Disturbance or displacement as a result of the presence of vessels.

- 7.2.2 In its response dated 14 November 2019 ("SNH Consultation Response"), SNH also advised that there will be LSE on the nesting and foraging seabird qualifying interests listed above arising from disturbance and displacement during the construction phase of the Project as a result of construction noise and increased vessel movement.

River Thurso SAC

- Atlantic salmon

- 7.2.3 The HRA Report identified the potential for LSE on the qualifying interest of the River Thurso SAC listed above during the construction phase of the Project arising from disturbance as a result of underwater noise emissions, in particular those associated with the piling activities of the Project.

- 7.2.4 The SNH Consultation Response advised that there will be LSE on the qualifying interest of the River Thurso SAC listed above during the construction phase of the Project as a result of noise from piling activity.

Moray Firth SAC

- Bottlenose dolphin

- 7.2.5 The HRA Report identified the potential for potential for LSE on the qualifying interest of the Moray Firth SAC listed above during the construction phase of the Project arising from disturbance as a result of underwater noise emissions from the piling activities of the Project.

- 7.2.6 The SNH Consultation Response advised that there was connectivity between the bottlenose dolphin qualifying interest of the Moray Firth SAC and the Project. The SNH Consultation Response confirmed the potential for LSE on the qualifying interest of the Moray Firth SAC listed above arising from;

- disturbance as a result of construction noise; and
- disturbance, injury or death to bottlenose dolphins from construction vessels.

- 7.2.7 MS-LOT agrees with the advice provided by SNH and has undertaken an AA for the above listed qualifying interests of the River Thurso SAC, Moray Firth SAC and North Caithness Cliffs SPA.

- 7.2.8 The SNH Consultation Response also advised that the Project is unlikely to have a significant effect on the harbour seal qualifying interest of the Sanday SAC or the grey seal qualifying interest of the Farry and Holm of Faray SAC. SNH advised that this on the basis that the Scrabster sea deposit site is outwith the connectivity range of the qualifying interests of these SACs. MS-LOT agrees with the advice provided by SNH and these SACs will not be considered further within this AA.

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

- 8.1 MS-LOT has considered the applications and supporting documentation, including the EIA Report and the HRA Report and the SNH Consultation Response and advice provided by MSS.

River Thurso SAC

- 8.2 The EIA Report identifies the River Thurso SAC as being located approximately 2 kilometres ("km") to the south east of the Project. It highlights that Thurso Bay, including the vicinity around the Project is heavily used by smolts during the months of April and May and as well as the presence of adult salmon between April and September. It also identifies the Pentland Firth, including Thurso Bay, as supporting a salmon fishery and indicates the area is a hot-spot for returning salmon. The HRA Report identifies that the underwater noise emissions from the Project have the potential to disturb salmon from the SAC as they migrate either from the River Thurso as smolts or from offshore waters to the River Thurso as adults to spawn. The SNH Consultation Response also identifies the potential impact on both smolts and adult salmon from piling noise.
- 8.3 To mitigate against impacts of noise emissions from the piling on the smolts the EIA Report includes a restriction, limiting piling activity to daylight hours during April and May, being the most sensitive migration period. The SNH Consultation Response however highlights that the nocturnal behaviour of the salmon diminishes as they move down the catchment towards the sea. SNH therefore advised that during the months of April and May, mitigation of the noise levels will also be required during the day, when the smolts may be

present. In addition, the SNH Consultation Response highlights the impacts from the piling noise on adult salmon when returning to the river and notes that adult salmon will be present from the start of April to the end of September. SNH advised that the Project would not adversely affect the integrity of the River Thurso SAC provided that soft start piling is employed at all times (day and night) from 1st April to 30th September inclusive.

- 8.4 The advice from MSS concurs with the SNH Consultation Response relative to the requirement to mitigate the noise levels during both day and night within the months of April and May and further that noise mitigation should be employed to the end of September. MSS noted however that salmon may not exhibit avoidance behaviour in response to the piling and therefore soft start piling may not be completely effective as mitigation. In this regard MSS highlighted a particular concern for the smolts as they emigrate in large numbers over a short period and noted the main runs of smolts generally take place from Scottish rivers during the period from 12 April to 24 May. MSS therefore advised that an additional mitigation measure could be to avoid sensitive times of the year when salmon are most likely to be present.
- 8.5 MSS also advised that there was the potential for salmon to be disturbed by other types of construction activities associated with the Project and therefore if there was any evidence of distressed, injured or dead salmon observed during construction activities, appropriate action by the SHT should be taken and this may include a break in the activity. MS-LOT have considered this advice and have concluded that this is not required to avoid adverse impact on site integrity.
- 8.6 In addition MSS advised, that the dredging and dredge disposal activities associated with the Project may disturb or injure salmon, at any life stage. In this regard the HRA Report identifies that these activities will disturb sediment and cause increases in suspended sediment concentrations in the water column, however it concludes that the variation caused will not be significant when compared with the natural range likely to be encountered within the bay. The MSS advice acknowledges the conclusions of the HRA Report and notes that all life stages of salmon are fairly tolerant of suspended sediment. MSS advise however if the dredging were to be for a longer period than anticipated and also if the activities were to produce higher than anticipated suspended levels outside the harbour then a useful precautionary measure would be to prevent dredging taking place with the sensitive smolt migration period. MS-LOT have considered this advice and have concluded that this is not required to avoid adverse impact on site integrity.

- 8.7 MS-LOT have considered the advice provided by SNH and MSS and have concluded that subject to the application of the conditions detailed in section 4, the SHT Project will not, in isolation, adversely affect the site integrity of the River Thurso SAC.

Moray Firth SAC

- 8.8 The SNH Consultation Response advised that while the Moray Firth SAC is situated on the east coast, bottlenose dolphins connected with the Moray Firth SAC have been recorded as present within the Pentland Firth. It can be considered therefore that even though the Moray Firth SAC is 56km away from the Project there is still the potential to impact on the bottlenose dolphin species.
- 8.9 The noise modelling detailed in the EIA Report identified that the thresholds for permanent threshold shift will not be exceeded for mid frequency cetaceans like bottlenose dolphins and so the risk of injury as result of the construction noise is negligible. The SNH Consultation Response and advice from MSS however both indicated that there is the potential to disturb bottlenose dolphins as result of construction noise, in particular that arising from piling activities. The EIA Report states that a trained and experienced Marine Mammal Observer or where appropriate PAM operative, will be employed to carry out pre-piling watches and associated mitigation measures in accordance with the Joint Nature Conservation Committee protocol for minimising the risk of injury to marine mammals from piling noise. Both the SNH Consultation Response and MSS advice agree with proposed mitigation. In this regard however MSS have advised that they would like to be included in the discussion between SHT and SNH regarding the agreement of the mitigation zone to employed prior to commencement of piling operations.
- 8.10 The SNH Consultation Response also considered the potential for bottlenose dolphins to be impacted by the Project as a result of disturbance, injury or death caused by construction vessels. To minimise the risk of collision with vessels the EIA Report noted that where possible, all vessels involved in construction will follow the Scottish Marine Wildlife Watching Code. In addition to this, SNH advised that dredging and disposal activities should be carried out in line with best practice and that a watch should be taken before these activities occur to ensure that animals are not near the vessels. SNH noted that it would be acceptable for a crew member to undertake such watches. SNH concluded that based on the information provided, that the Project would not adversely affect the integrity of the Moray Firth SAC.

- 8.11 MS-LOT have considered the advice provided by SNH and MSS and have concluded that subject to the application of the condition detailed in section 4, the SHT Project will not, in isolation, adversely affect the site integrity of the Moray Firth SAC. The condition requires SHT to adhere to a Marine Mammal Mitigation Plan which incorporates the mitigation measures detailed above.

North Caithness Cliffs SPA

- 8.12 The HRA Report identifies the North Caithness Cliffs SPA as being located approximately 400 metres away from the Project and identifies the potential for nesting and foraging seabirds to being impacted as a result of noise or visual disturbance.
- 8.13 The HRA Report states that there is the potential for a significant amount of noise to be emitted during the construction phase of the Project. Modelling undertaken to determine the noise emissions during the construction phase predicted levels as low as 50 decibel at the nearest point of the SAC boundary in a worst case scenario where a range of noisy activities were simultaneously occurring. The SNH Consultation Response advised that this level of noise will not cause disturbance to nesting seabirds, particularly when considering that the SPA cliffs are sheltered from the Project as they curve round to the north.
- 8.14 The HRA Report also identified that visual disturbance may be caused as a result of increased vessel traffic, with the potential to impact seabirds by reducing the time spend feeding and result in displacement from foraging grounds. The SNH Consultation Response however notes that the Project is expected to result in a 6% increase in vessel traffic and they advise that this will not cause significant disturbance to foraging seabirds of the SPA providing that vessels follow best practice guidelines at all times, as set out in the Scottish Marine Wildlife Watching Code. SNH advised that based on the information provided, that the Project would not adversely affect the integrity of the North Caithness Cliffs SPA.
- 8.15 MS-LOT has considered the advice of SNH and have concluded that, subject to the condition set out in section 4, the SHT Project will not, in isolation, adversely affect the site integrity of the North Caithness Cliffs SPA.

9 In-combination assessment

- 9.1 MS-LOT has carried out an in-combination assessment to ascertain whether the SHT Project will have a cumulative effect with other plans or projects which, in combination, would have the potential to affect the qualifying

interests of the River Thurso SAC, Moray Firth SAC or North Caithness Cliffs SPA.

9.2 The following projects currently have an active marine licence, section 36 consent or European protected species licence and associated AA which identified a likely significant effect on the qualifying interests of the River Thurso SAC, Moray Firth SAC and/or North Caithness Cliffs SPA.

9.3 Meygen Phase 1

9.3.1 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. A construction timeline for phases 1b and 1c has not yet been determined.. Phase 1b of the project (also known as Project Stroma) will consist of the installation of a further 4 tidal turbines, along with the deployment of a subsea hub. Two tidal turbines will be initially installed and then monitored for a period of time in order to inform decisions on future deployment of the remaining two tidal turbines for Phase 1b and the remaining tidal turbines (53) for deployment during phase 1c.

9.3.2 Further information regarding the project can be found [here](#).

9.4 Beatrice Offshore Wind Farm

9.4.1 Installation and operation of the Beatrice Offshore Windfarm, which is located in the outer Moray Firth 13.5km from the Caithness coast. The total area of the development is 131.5km². 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.

9.4.2 Further information regarding the project can be found [here](#).

9.5 Moray Offshore East Development

9.5.1 The current design envelope is for a maximum generating capacity of up to 1,116 MW and for a maximum of 186 wind turbines. The proposals are located on the Smith Bank in the outer Moray Firth (approximately 22km from the Caithness coastline, in water depths of 38 – 57m). The operational lifespan of the wind farms is expected to be 25 years.

9.5.2 The three proposed 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 either a mixture of, or one design option of:

- concrete gravity base foundation with ballast and a gravel/grout bed, or
- steel lattice jackets with pin piles.

9.5.3 Construction work is currently ongoing with piling works scheduled to be completed by the end of February 2020 and all construction due to be completed in 2021.

9.5.4 Further information regarding the Moray Offshore East Development can be found [here](#).

9.6 Dounreay Tri Floating Wind Demonstration Project – Hexicon

9.6.1 The Development will consist of a demonstration floating offshore windfarm called Dounreay Tri which shall consist of:

- a two turbine offshore windfarm with an installed capacity of between 8 to 12 MW, at least 6 km off Dounreay, Caithness
- A single 33 kV export cable to bring the power to shore immediately to the west of the Dounreay Restoration Site fence line, and
- Subject to a Connection Offer from Scottish and Southern Energy Power Distribution the associated onshore electrical infrastructure to connect the Project at, or near, the existing substation at Dounreay.

9.6.2 The main offshore components will include two offshore wind turbines, a floating foundation, mooring clump weight, mooring chain and/or steel lines, drag embedment anchors, export cable and scour protection for the anchors and the export cable where necessary.

9.6.3 Further information regarding the project can be found [here](#).

9.6.4 The company behind this development has gone into administration and presently the project is 'on hold'. Although there is interest from other organisations in buying the existing consents, work is currently suspended.

9.7 Aberdeen Bay Offshore Wind Farm

9.7.1 Installation and operation of a European Offshore Wind Deployment Centre consisting of 11 turbines, inter-array and export cables located 2 to 4.5km east of Blackdog, Aberdeenshire. Construction commenced in November 2017, beginning with foundations and cabling. All construction works have been completed for this project which is now in the operational stage which is scheduled to continue until 2032.

9.8 Moray Offshore East Development, Modified Offshore Transmission Infrastructure

9.8.1 Modified offshore transmission infrastructure for the consented Moray East Telford, Stevenson and MacColl wind farms in the outer Moray Firth. . The works will consist of;

- Up to 2 AC Offshore Substation Platforms (“OSP”);
- Substructure and foundations for the OSPs;
- Inter-platform cabling within the 3 consented wind farms; and
- Up to 4 triplecore submarine export cables between the OSPs and the shore.

9.8.2 Piling works will be complete by the end of February 2020 and construction is scheduled to be completed during 2021.

9.8.3 Further information regarding this project can be found [here](#).

9.9 Moray West Offshore Windfarm

9.9.1 Marine licences and a s. 36 consent were granted for the construction and operation of the Moray West Offshore Wind Farm and associated offshore transmission infrastructure on 14 June 2019. The wind farm is located 22.5km southeast off the Caithness coastline.

9.9.2 The operational lifespan of the project is expected to be 25 years. The project covers a total area of approximately 225km² comprised of no more than 85 wind turbines with a maximum generating capacity of around 850 MW. Further details of the proposed works can be found [here](#).

9.10 Forth and Tay Windfarm Developments

9.10.1 When considered collectively, the following developments are referred to as the “Forth and Tay Windfarm Developments”;

- Neart na Gaoithe Offshore Windfarm Limited (“NnGOWL”),, approximately 15.5km to the east of Fife Ness in the outer Firth of Forth.
- Inch Cape Offshore Limited development (“ICOL”), approximately 15km to the east off the Angus coastline.
- Seagreen Alpha Wind Energy Limited development (“SAWEL”), approximately 27km off the Angus coastline.
- Seagreen Bravo Wind Energy Limited development (“SBWEL”), approximately 38km off the Angus coastline.

9.10.2 A full project description for each development can be found here: [NNGOWL](#), [ICOL](#), [SAWEL](#), [SBWEL](#). These projects have not been progressed due to delays associated with a judicial review and all three projects have submitted applications for new consents and licences during 2018. NnGOWL and ICOL have now received new consents and licences, details of which are included in sections 9.14 and 9.11. Although these two projects now have permission for two different proposals, only one proposal for each project will be built out.

9.10.3 Construction and operation of the Inch Cape Offshore Wind Farm and associated offshore transmission infrastructure, located 15km east off the Angus coastline, for which consent was granted in October 2014. The operational lifespan of the project is expected to be 25 years. The project covers a total area of approximately 150km².

9.11 Inch Cape Offshore Windfarm

9.11.1 Construction and operation of a wind farm and associated offshore transmission infrastructure 15-22km east of the Angus coastline. The development will consist of a maximum of 72 wind turbines and up to two offshore substation platforms. In addition, up to two export cables will connect the development to the landfall at Cockenzie in East Lothian. Construction activities are anticipated to start in 2021 with works taking approximately 24 months over a 3 year period.

Further information regarding the project can be found [here](#).

9.12 Hywind Scotland Pilot Park

9.12.1 The Hywind Pilot Park is located approximately 25km off the coast at Peterhead, North East Scotland just outside the 12nm territorial water limit. The project includes construction, installation, operation and maintenance activities. Five 6MW wind turbine generators have been installed and are expected to produce up to 135GWh per year of electricity. The turbines are positioned between 800 to 1,600m apart and attached to the seabed by a

three-point mooring spread and anchoring system. Three anchors are required per turbine and the radius of the mooring system extends between 600 to 1,200m out from each turbine. All construction and installation works are complete and the project is now in the operational phase.

9.12.2 Further information regarding the project can be found [here](#).

9.13 Aberdeen Harbour Expansion Project, construction, capital dredging and deposit of dredge material

9.13.1 Aberdeen Harbour Board ("AHB") are developing a new harbour facility at Nigg Bay, Aberdeen, approximately 0.8km south of the existing harbour in Aberdeen City centre. Their proposal includes construction of two breakwaters, quaysides and associated infrastructure as well as a large-scale capital dredge and sea deposit operation. Works commenced in late 2016 and are now scheduled to be completed by the end of 2021. Dredging operations are expected to last until September 2019, which is when their dredging licence expires. Test blasting was undertaken in August 2018 and discussions are currently underway regarding future blasting operations. Therefore, timelines relating to blasting are yet to be confirmed. AHB are no longer undertaking any impact piling as they will be using rotary piling, which it is thought to produce less noise.

9.13.2 Further information regarding the project can be found [here](#).

9.14 Neart na Gaoithe Offshore Windfarm

9.14.1 Construction and operation of a wind farm and associated offshore transmission infrastructure located 15.5km east of Fife Ness in the Firth of Forth. Consent has been granted for up to 54 wind turbines with piled jacket foundations. In addition, up to two offshore sub stations and one meteorological mast may be constructed along with two offshore export cables. These will connect to the landfall point at Thorntonloch, south of Torness Power Station in East Lothian. The operational lifespan of the project is expected to be 50 years. Construction activities are scheduled to commence in Q3 2021 and conclude in late 2022.

Further information regarding this project can be found [here](#).

9.15 Port of Cromarty Firth, Phase 4 – Construction and Dredging

9.15.1 The proposed phase 4 project involves land reclamation to provide an additional 4.5Ha of laydown space to the west of the previously completed

phase 3 development, including the construction of 215m of quay wall to create a new berth adjacent to the existing berth 5 to create a combined 369m long quay face.

- 9.15.2 A rock armour revetment will be constructed along the north and west sides of the new laydown area with a tubular and sheet piled wall forming the new quay.
- 9.15.3 Dredging will be required along the toe of the new revetment structure and a second campaign will be required to create a finished depth of 12 metres along the new berth. The total dredge volume is estimated to be 110,000m³ of material. which will be deposited at the Sutors dredge spoil deposit area.
- 9.15.4 The works are scheduled to take place between 01 November 2018 and 31 March 2020. A full project description can be found [here](#).

9.16 Moray Offshore West Development, Geophysical Surveys

- 9.16.1 Moray West has identified a need for marine surveys in three areas of the proposed windfarm development: the wind farm array area, offshore export cable corridor and nearshore export cable corridor. Within the wind farm array area the geophysical surveys will also include UXO surveys, whilst the geophysical surveys of both the nearshore and offshore cable corridors will include the use of drop down cameras for benthic ecology surveys.
- 9.16.2 The geophysical surveys within the wind farm array area will last approximately 2 weeks and the UXO surveys within the same area will last approximately 3 weeks. The geophysical surveys within the cable route will last approximately 6 weeks. The surveys commenced in April 2019, and will take approximately 11 weeks to complete over the next year. They will be completed by 31 March 2020.

9.17 Scottish Water, Construction of a New Outfall Pipe – Dunnet

- 9.17.1 The proposal consists of the construction of a new, longer and deeper sea outfall, to replace the existing sewage outfall arising from a wastewater treatment plant in the village of Dunnet in Caithness. The existing pipeline will be left in situ and filled with concrete as part of the works. A new 700m long 225mm diameter outfall will be installed using horizontal directional drilling from above Mean High Water Springs ("MHWS") to minimise seabed disturbance. The works are scheduled to take place over 9 months between 25 July 2019 and 19 November 2020.

9.18 Bear Scotland, Bridge Maintenance – Kessock Bridge

9.18.1 This licence covers routine maintenance activities to be carried out on the bridge over a period of 5 years. All works will be highly localised and take place within the immediate vicinity of the bridge. With the exception of scour repairs and fender replacement, all maintenance activities will take place above MHWS. In most cases activity duration is likely to be less than three months and for several activities, duration will be less than a few weeks. The exception being the painting of the superstructure which will take approximately 4 years to complete.

9.19 Ardersier Port Development

9.19.1 The Ardersier Port Development is located at the former McDermott Fabrication Yard, which lies approximately 7.5km to the west of Nairn, 3km northeast of the village of Ardersier and is bounded by the Moray Firth to the north. The site extends to 307 hectares in total (including marine and terrestrial aspects) and features an existing harbour which is protected by a naturally occurring sand and shingle spit known locally as Whiteness Head.

9.19.2 The works involve port entrance/inner channel dredging, quay wall construction/realignment and quayside (berthing) dredging. The works are scheduled to start in 2019 and take up to 5 years to complete.

9.19.3 A dredge of 2,300,000m³ of sand will be required to deepen the port entrance to -6.5m chart datum. A cutter suction dredger will be used. An area of the inner channel will be dredged to -3m chart datum by either plough dredging, backhoe dredger or land based equipment. Once dredging has been completed, the new 464m sheet pile wall will be constructed alongside the existing quayside.

9.20 European Marine Energy Centre – Fall of Warness

9.20.1 The European Marine Energy Centre 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 25m

- Minimum depth -2.5m 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.

9.20.2 Further information regarding the project can be found [here](#).

9.21 Peterhead Port Authority, Revetment Works – Peterhead

9.21.1 The works are part of a larger project to strengthen the existing, circa 330m long, sea defence revetment at Alexandra Parade, Peterhead.

9.21.2 The project includes re-profiling of the existing revetment, formation of a toe trench and placement of various sizes of rock armour and pre-cast concrete units within the toe trench to create a toe mound.

9.21.3 Existing concrete elements and rock armour will be removed and remaining sections of the concrete pitched revetment will then be broken up to improve porosity. The toe trench will be formed using an excavator mounted rock breaker or rock wheel. A rock embankment will be constructed using 1-3 Tonne ("T") rock fill to overlay the existing revetment. Pre-cast concrete armour base units ("Xbloc units") will then be placed in the newly developed toe trench and overlaid with 10 T rock armour to create a toe mound. To construct the revetment Xbloc units will be placed on the rock embankment slope, extending from the toe structure to the crest of the revetment.

9.21.4 The project will be completed in two phases between April 2020 and December 2022.

9.22 Scottish Hydro Electric Transmission plc - Cable - Orkney to Mainland Scotland

9.22.1 Scottish Hydro Electric Transmission propose to install a 220kV high voltage alternating current cable from Warebeth, Orkney to Dounreay, Caithness. The proposed cable route is approximately 53km long with a 200 m corridor.

9.22.2 To install the cable, HDD (Horizontal Directional Drilling) techniques will be employed from the cliff top at each landfall site.

9.22.3 Beyond where the HDD techniques are employed, the seabed will be trenched, where possible, and the cable buried through either natural backfilling, or where a natural backfill is not possible, through the use of

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.

9.22.4 The works are scheduled to start in June 2020 with the preparation of the HDD boreholes which is scheduled to last until March 2021.

9.22.5 The route will then be surveyed and cleared of any obstructions between May 2022 and June 2022. The installation of the cable is scheduled to commence in June 2022 and continue until October 2022.

9.23 Dredging Operations

9.23.1 There are a number of dredging operations which were identified as having a likely significant effect on the Moray Firth SAC which could also be affected by the SHT Project. The table below summarises these projects.

Table 5: Dredging operations identified as having a likely significant effect on the Moray Firth SAC

Location of Dredge	Licensee	Amount of Dredge Material	Dredge Spoil Deposit Area	Dates of Licence
Aberdeen Harbour	Aberdeen Harbour Board	295,500 wet tonnes	Aberdeen	March 2019 – March 2020
Nigg	Global Energy Nigg	6000m ³	Sutors	March 2017 – March 2020
Cromarty, West Harbour	Port of Cromarty Firth	10000 wet tonnes	Sutors	May 2019 – May 2022
Banff	Aberdeenshire Council	19,000 wet tonnes	Macduff	August 2018 – July 2020
Cullen	Moray Council	10,000 wet tonnes	Buckie	February 2020 – February 2023

Portknockie	Moray Council	10,000 wet tonnes	Buckie	February 2020 –February 2023
Hopeman	Moray Council	10,000 wet tonnes	Buckie	February 2020 –February 2023
Findochty	Moray Council	10,000 wet tonnes	Buckie	February 2020 –February 2023

9.24 Assessment of in-combination effects on the River Thurso SAC

9.24.1 The following projects currently have an active marine licence, section 36 consent or European protected species licence and associated AA which identified a likely significant effect on the qualifying interests of the River Thurso SAC.

- Meygen Phase 1 (Section 9.3)
- Beatrice Offshore Wind Farm (Section 9.4)
- Moray Offshore East Development (Section 9.5)
- Dounreay Tri Floating Wind Demonstration Project – Hexicon (Section 9.6)

Given that the Dounreay Tri Floating Wind Demonstration Project is on hold pending future marine licences any in-combination effect will be assessed in the course of processing any future marine licence. Effects from the Beatrice Offshore Windfarm project were most likely during the construction phase of the project which has now been completed. The only remaining effects during the operational phase would be from electro-magnetic fields around the cables which were not deemed to be significant. Although no current construction works are scheduled to take place at the Meygen site, significant effects were identified from the turbines during the operational phase. The Moray Offshore East Development is currently being constructed so is also likely to have an in-combination effect with the SHT Project. However, providing the conditions in the AAs for the Meygen, Moray East and SHT Projects are adhered to, any in combination effects will not significantly affect the site integrity of the River Thurso SAC.

9.25 Assessment of in-combination effects on the Moray Firth SAC

9.25.1 The following projects currently have an active marine licence, section 36 consent or European protected species licence and associated AA which identified a likely significant effect on the qualifying interests of the Moray Firth SAC.

- Beatrice Offshore Wind Farm (Section 9.4)
- Moray Offshore East Development (Section 9.5)
- Aberdeen Bay Offshore Windfarm (section 9.7)
- Moray Offshore East Development, Modified Offshore Transmission Infrastructure (Section 9.8)
- Moray Offshore West Development (Section 9.9)
- Forth and Tay Windfarm Developments (Section 9.10)
- Inch Cape Offshore Windfarm (Section 9.11)
- Hywind Scotland Pilot Park (Section 9.12)
- Aberdeen Harbour Expansion Project (Section 9.13)
- Neart na Gaoithe Offshore Windfarm (Section 9.14)
- Port of Cromarty Firth, Phase 4 – Construction and Dredging (Section 9.15)
- Moray Offshore West Development – Geophysical Surveys (Section 9.16)
- Scottish Water, Construction of a New Outfall – Dunnet (Section 9.17)
- BEAR Scotland, Bridge Maintenance – Kessock Bridge (Section 9.18)
- Ardersier Port Development, Construction and Dredging (Section 9.19)
- Peterhead Port Authority, Revetment Works (Section 9.21)
- Dredging Operations (Section 9.23)

9.25.2 The will be no in combination effects with the Beatrice Offshore Windfarm, Aberdeen Bay Offshore Windfarm and Hywind Scotland Pilot Park as these projects are all in the operational phase. Likely significant effects on the Moray Firth SAC were only identified during the construction phase for these projects.

9.25.3 SNH advised that given the nature of the works and the predicted minor impacts, cumulative impacts resulting from the SHT Project and others are unlikely. MS-LOT agree with SNH and conclude that although in combination effects with the remaining projects listed above are possible, providing the conditions in all of the respective AAs are adhered to, there will be no adverse impact on the site integrity of the Moray Firth SAC.

9.26 Assessment of in-combination effects on the North Caithness Cliffs SPA

9.26.1 The following projects currently have an active marine licence, section 36 consent or European protected species licence and associated AA which identified a likely significant effect on the qualifying interests of the North Caithness Cliffs SPA.

- Meygen Phase 1 (Section 9.3)

- Beatrice Offshore Wind Farm (Section 9.4)
- Moray Offshore East Development (Section 9.5)
- Dounreay Tri Floating Wind Demonstration Project – Hexicon (Section 9.6)
- Moray Offshore West Development (Section 9.9)
- Scottish Water, Construction of a New Outfall – Dunnet (Section 9.17)
- European Marine Energy Centre – Fall of Warness (Section 9.20)
- Scottish Hydro Electric Transmission plc - Orkney to Mainland Scotland (Section 9.22)

With the exception of the Dounreay Tri Floating Wind Demonstration Project, which is currently on hold, there is the potential for in combination effects with all of the above projects. However, providing they are all undertaken in line with the conditions in their respective AAs, any in combination effects will not significantly impact the site integrity of the North Caithness Cliffs SPA. This conclusion is supported by SNH which advised that given the nature of the works and the predicted minor impacts, cumulative impacts resulting from the SHT Project and others are unlikely.

10 MS-LOT Conclusion

- 10.1 MS-LOT concludes that providing the conditions listed in Section 4 are adhered to, there will be no adverse effect on the site integrity of the River Thurso SAC, Moray Firth SAC or the North Caithness Cliffs SPA from the SHT Project either in isolation or in-combination with other projects.

SECTION 4: CONDITIONS

11 Requirement for conditions

- 11.1 The following conditions are required to ensure the Project will not adversely affect the site integrity of the River Thurso SAC, Moray Firth SAC and North Caithness Cliffs SPA:
- 11.1.1 The licensee must ensure that the works are carried out in accordance with a Marine Mammal Management Plan (“MMMP”) which the licensee must submit, in writing, to the licensing authority for their written approval, no later than two months prior to the works or at such a time as agreed with the licensing authority. It is not permissible for the works to proceed prior to the granting of such approval. In the event that the licensee wishes to update or amend any of the protocols in the MMMP, the licensee must submit, in writing, details of proposed updates or amendments to the licensing authority for their written

approval, no later than one month or at such a time as agreed with the licensing authority, prior to the planned implementation of the proposed updates or amendments. It is not permissible for any works associated with the proposed updates or amendments to proceed prior to the granting of such approvals. The MMMP must include, but not be limited to, the employment of a Marine Mammal Observer ("MMO").

- 11.1.2 Subject to conditions 11.1.3 and 11.1.4 below soft-start piling must be employed at all times (both day and night) between 1st April and 30th September inclusive.
- 11.1.3 No piling operations may take place between 12 April and 24 May, inclusive. If piling is required during this period, a separate approval must be sought from the licensing authority.
- 11.1.4 Subject to the restriction detailed in condition 11.1.2 any piling during the months of April and May must only be carried on during daylight hours.
- 11.1.5 The licensee must ensure that all vessels involved in construction adhere to the best practice guidelines as set out in the Scottish Marine Wildlife Watching Code at all times.