

Appropriate Assessment for Global Energy Group (per EnviroCentre) Nigg Energy Park East Quay Development. July 2020.

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

APPLICATION FOR A MARINE LICENCE UNDER THE MARINE (SCOTLAND) ACT 2010 FOR CONSTRUCTION, DREDGING AND DEPOSIT OF DREDGE SUBSTANCES OR OBJECTS ASSOCIATED WITH THE EAST QUAY DEVELOPMENT AT NIGG ENERGY PARK.

SITE DETAILS: NIGG ENERGY PARK, EAST QUAY, CROMARTY FIRTH

<b>Name</b>	<b>Assessor or Approver</b>	<b>Date</b>
Jacqui Cameron	Assessor	16 July 2020
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## **SECTION 1: BACKGROUND**

### **1 Appropriate assessment (“AA”) conclusion**

- 1.1 This AA concludes that there will be no adverse effect on the site integrity of the Moray Firth SAC or the Dornoch Firth and Morrich More SAC (where each SAC is taken as a whole), from the Global Energy Group (“GEG”) 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 GEG proposal will not adversely affect the integrity of the Moray Firth SAC or the Dornoch Firth and Morrich More SAC 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 GEG proposal to carry out marine construction, including piling, dredging activities and deposit of dredged substances or objects (“dredge spoil”) associated with the development Nigg East Quay, Nigg. (Hereinafter collectively 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 and Special Protection Areas (“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 Project includes the following marine components to allow the expansion of existing services provided at the Nigg Energy Park:
- Construction of an expanded lay down area and deep sea berth.
  - Dredge and deposit of dredge spoil.

- 3.2 The construction of an expanded lay down involve a 0.88ha perimeter wall to be piled to retain locally dredged sediment to form an extended lay down area/pier. The quay wall will be constructed predominantly with the use of a vibrating hammer to drive both sheet and king piles into place, only if bedrock is encountered will impact pile driving be used. The quay will be finished with concrete coping, rock armour and a 2m high bund at the eastern and northern extents.
- 3.3 The dredge area (shown in appendix 1) will result in 165,000m<sup>3</sup> of sediment being removed to create the deep sea berth 12m below chart datum (“CD”) alongside the quay. Up to 30,000m<sup>3</sup> of the sediment from the deep sea berth will be used as infill within the quay wall if found to be suitable. This sediment will be pumped directly along floating pipework to the infill location. The remaining sediment will be deposited by bottom dumping at the Sutors licensed disposal site. The sediment will be removed by suction dredge and a barge mounted excavator will be available should bedrock be encountered.
- 3.4 It is proposed that the Project will take 10 months to complete in four overlapping phases once appropriate licences are in place.
- Phase 1 creation of structures – months 1 to 7
  - Phase 2 dredge and disposal – months 5 to 9
  - Phase 3 concrete and services – months 6 to 9
  - Phase 4 surfacing and testing – months 8 to 10
- 3.5 It is intended that construction activities take place from 7am to 7pm seven days a week. However, dredging is anticipated to be 24 hours per day, every day until the Project are complete as part of Phase 2.

## 4 Consultation

- 4.1 SNH was consulted on the marine licence applications, supporting information and an [Environmental Impact Assessment Report \(“EIA Report”\)](#) which includes [Technical Appendices](#) on 14 October 2019.
- 4.2 Marine Scotland Science (“MSS”) advice on the proposal was requested on 09 March 2020.
- 4.3 A detailed response was received from SNH on 27 November 2019.
- 4.4 Clarification was sought from SNH on 22 April 2020 and a response received on 05 May 2020.
- 4.5 MSS provided advice on the proposal by email on 26 March 2020.

## 5 Main points raised during consultation

- 5.1 SNH provided a copy of the response they issued on 08 August 2019 to the Highland Council in response to terrestrial planning consultation for this proposal.
- 5.2 In the response SNH advised that the proposal is likely to have a significant effect on the bottlenose dolphin protected feature of the Moray Firth SAC, and the harbour seal protected feature of the Dornoch Firth and Morrich More SAC, and advised that an AA was required.
- 5.3 SNH advised that it had also considered other designated sites in the vicinity of the proposal and concluded that it agreed with the conclusions of the EIAR that there would be no likely significant effect on either the Cromarty Firth SPA or the Moray Firth pSPA. As a result these will not be considered further in this AA.
- 5.4 MSS stated in its response of 26 March 2020 that it was in agreement with SNH and satisfied with the mitigation proposed.

## 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 sites affected and relevant links to SNHi website**

<p><b><u>Moray Firth SAC</u></b> <a href="https://sitelink.nature.scot/site/8327">https://sitelink.nature.scot/site/8327</a></p> <p><b><u>Dornoch Firth and Morrich More SAC</u></b> <a href="https://sitelink.nature.scot/site/8242">https://sitelink.nature.scot/site/8242</a></p>
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**Table 2 European qualifying interests**

<p><b><u>Moray Firth SAC</u></b></p> <ul style="list-style-type: none"><li>• Bottlenose dolphin (<i>Tursiops truncatus</i>)</li><li>• Subtidal Sandbanks</li></ul> <p><b><u>Dornoch Firth and Morrich More SAC</u></b></p> <ul style="list-style-type: none"><li>• Atlantic salt meadows</li><li>• Coastal dune heathland</li><li>• Dune grassland</li><li>• Dunes with juniper thickets</li><li>• Estuaries</li><li>• Glasswort and other annuals colonising mud and sand</li><li>• Harbour seal (<i>Phoca vitulina</i>)</li><li>• Humid dune slacks</li><li>• Intertidal mudflats and sandflats</li><li>• Lime-deficient dune heathland with crowberry</li><li>• Otter (<i>Lutra lutra</i>)</li><li>• Reefs</li><li>• Shifting dunes</li><li>• Shifting dunes with marram</li><li>• Subtidal sandbanks</li></ul>
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**Table 3 Conservation objectives**

<p><b><u>Moray Firth SAC and Dornoch Firth and Morrich More SAC</u></b></p> <p>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</p> <p>To ensure for the qualifying habitat that the following are maintained in the long term:</p> <ul style="list-style-type: none"><li>• Extent of the habitat on site</li><li>• Distribution of the habitat within site</li><li>• Structure and function of the habitat</li><li>• Processes supporting the habitat</li><li>• Distribution of typical species of the habitat</li><li>• Viability of typical species as components of the habitat</li><li>• No significant disturbance of typical species of the habitat</li></ul> <p>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</p>
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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 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)?*

#### **Moray Firth SAC**

- Bottlenose dolphin (*Tursiops truncatus*)

The SNH Consultation Response advised that the proposal is likely to have a significant effect on the bottlenose dolphin feature of the Moray Firth SAC due to underwater noise caused by construction, dredging and deposition intrinsic to the proposal as well as impacts from vessel movements and potential pollution.

#### **Dornoch Firth and Morrich More SAC**

- Harbour seal (*Phoca vitulina*)

The SNH Consultation Response advised that the proposal is likely to have a significant effect on the harbour seal feature of the Dornoch Firth and Morrich

More SAC due to underwater noise caused by construction, dredging and deposition intrinsic to the proposal as well as impacts from vessel movements and potential pollution.

MS-LOT agrees with SNH's advice and has undertaken an AA for the bottlenose dolphin qualifying interest of the Moray Firth SAC and the harbour seals qualifying interest of the Dornoch Firth and Morrich More SAC.

The EIA Report assesses the impact of the proposal on all features of the designated sites. The relevant section of the report (EIAR Vol 1, section 4.7, table 4.7 onwards) details the perceived effect, each feature of each designated site and the significance of the effect. With the exception of the features considered above in detail, the report concluded all other effects not to be significant, this was supported by the SNH response and no further consideration is given within this document.

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

### **Moray Firth SAC**

- Bottlenose dolphin (*Tursiops truncatus*)

- 8.1 SNH advised that the proposal could have a likely significant effect on the Bottlenose dolphin qualifying interest of the Moray Firth SAC.
- 8.2 The EIA Report identified the main impact to bottlenose dolphins is from underwater noise. Possible effects include permanent threshold shift ("PTS") and temporary threshold shift ("TTS") in hearing as well as disturbance. Noise modelling indicated that the highest impact scenario, impact piling would present a PTS risk out to 150m from the noise source. The TTS zone extends to 1km, but to be impacted in this way, an animal would have to remain stationary in the zone for over one hour during piling which is unlikely. A Marine Mammal Mitigation Plan ("MMMP") is proposed for impact piling. The MMMP includes a Marine Mammal Observation Protocol ("MMOP") with a mitigation zone of 500m, a soft start approach and a Passive Acoustic Monitoring ("PAM") protocol.
- 8.3 If vibro piling is undertaken, a soft start will be undertaken but it is not considered necessary to employ a MMO or PAM protocol as modelling indicated that there was no risk of PTS and the TTS zone was less than 100m.



A soft start will allow animals to move away from the source of the noise before it reaches full power.

- 8.4 Similarly, it is not considered necessary to employ MMO or PAM protocols for dredging as modelling showed no risk of PTS and a TTS zone of less than 100m.
- 8.5 The increase in vessel numbers present during construction and operation would increase the risk of collision with bottlenose dolphins. The MMMP notes that speed restrictions will be implemented for vessels travelling to and from the proposed development and will continue throughout construction and operation. Other good practice measures are also described in the MMMP. Prior to deposit of dredge material, a 250m radius of water will be visually scanned to ensure no animals are in proximity of the vessel.
- 8.6 Adverse effects from low level underwater noise as a result of increased vessel movements are likely to be minimal. The Moray Firth, and the area around The Suters in particular, already has high levels of vessel movement associated with the existing Nigg Energy Park and port at Invergordon. It is considered that the dolphins utilising this area will already be accustomed to higher levels of background noise associated with vessels.
- 8.7 The release of pollutants into the water could have an impact on bottlenose dolphin or their prey. The material to be dredged has been assessed as clean sand and will therefore pose no risk. A Construction Environment Management Plan ("CEMP") will include good practice mitigation for pollution as a result of spills or leaks.
- 8.8 The information provided along with the appraisal carried out by the applicant submitted in support of the marine licence application is such that it was concluded by SNH that the proposal would not adversely affect the integrity of the Moray Firth SAC. This is because the measures outlined in the application, specifically CEMP, including standard pollution control measures, a Marine Mammal Mitigation Plan which includes the use of marine mammal observers ("MMO"), passive acoustic monitoring ("PAM") and a soft start approach, are sufficient to avoid an adverse effect on site integrity. However, construction vessel movements must be subject to the CEMP and MMMP to avoid an adverse effect on site integrity.
- 8.9 All of the proposed actions are in line with current JNCC protocols and are appropriate for the proposal to effectively mitigate against adversely affecting the integrity of the designated site.

- 8.10 MS LOT has taken into consideration the information provided in support of the application and concurs with the conclusions of SNH that this proposal in isolation, with appropriate mitigation, will not adversely affect the site integrity of the Moray Firth SAC.

### **Dornoch Firth and Morrich More SAC**

- Harbour seal (*Phoca vitulina*)

- 8.11 SNH advised that the proposal could have a likely significant effect on the harbour seal qualifying interest of the Dornoch Firth and Morrich More SAC.
- 8.12 The EIA Report identified the main impact to harbour seals is from underwater noise. Possible effects include permanent threshold shift (“PTS”) and temporary threshold shift (“TTS”) in hearing as well as disturbance. Noise modelling indicated that the highest impact scenario, impact piling would present a PTS risk out to 1km from the noise source. However, this scenario assumes a seal would remain stationary for over one hour during continuous impact piling which is considered unlikely. A more likely scenario is a seal remaining stationary for one minute, resulting in a PTS zone of less than 100m. The TTS zone extends to 1.5km, but to be impacted in this way, an animal would have to remain stationary in the zone for over one hour during piling which is unlikely. A more realistic exposure time of one minute gives a TTS zone of 1km. A Marine Mammal Mitigation Plan (“MMMP”) is proposed for impact piling. The MMMP includes a Marine Mammal Observation Protocol (“MMOP”) with a mitigation zone of 500m (as per JNCC guidance), a soft start approach and a Passive Acoustic Monitoring (“PAM”) protocol.
- 8.13 Modelling indicated that the worst case scenario for vibro piling was a very small risk zone of PTS (less than 50m) and a TTS zone of 1km. If vibro piling is undertaken, a soft start will be undertaken but it is not considered necessary to employ a MMO or PAM protocol as modelling indicated that there was no risk of PTS and a low risk of TTS. A soft start will allow animals to move away from the source of the noise before it reaches full power.
- 8.14 Similarly, modelling showed no risk of PTS and a TTS zone of less than 100m during dredging activities and therefore it is not considered necessary to employ MMO or PAM protocols for dredging.
- 8.15 The increase in vessel numbers present during construction and operation would increase the risk of collision with bottlenose harbour seals. The MMMP notes that speed restrictions will be implemented for vessels travelling to and from the proposed development and will continue throughout construction and

operation. Other good practice measures are also described in the MMMP. Prior to deposit of dredge material, a 250m radius of water will be visually scanned to ensure no animals are in proximity of the vessel.

- 8.16 Adverse effects from low level underwater noise as a result of increased vessel movements are likely to be minimal. The Moray Firth, and the area around The Souters in particular, already has high levels of vessel movement associated with the existing Nigg Energy Park and port at Invergordon. It is considered that any harbour seals utilising this area will already be accustomed to higher levels of background noise associated with vessels.
- 8.17 The release of pollutants into the water could have an impact on bottlenose dolphin or their prey. The material to be dredged has been assessed as clean sand and will therefore pose no risk. A Construction Environment Management Plan (“CEMP”) will include good practice mitigation for pollution as a result of spills or leaks.
- 8.18 The information provided along with the appraisal carried out by the applicant submitted in support of the marine licence application is such that it was concluded by SNH that the proposal would not adversely affect the integrity of the Dornoch Firth and Morrich More SAC. This is because the measures outlined in the application, specifically a CEMP, including standard pollution control measures, a Marine Mammal Mitigation Plan which includes the use of marine mammal observers (“MMO”), passive acoustic monitoring (“PAM”) and a soft start approach, are sufficient to avoid an adverse effect on site integrity. However, construction vessel movements must be subject to the CEMP and MMMP to avoid an adverse effect on site integrity.
- 8.19 All of the proposed actions are in line with current JNCC protocols and are appropriate for the proposal to effectively mitigate against adversely affecting the integrity of the designated site.
- 8.20 MS LOT has taken into consideration the information provided in support of the application and concurs with the conclusions of SNH that this proposal in isolation, with appropriate mitigation, will not adversely affect the site integrity of the Dornoch and Morrich More SAC

## **9 In-combination assessment**

- 9.1 MS-LOT has carried out an in-combination assessment to ascertain whether the GEG proposal will have a cumulative effect with other plans or project which, in combination, would have the potential to affect the bottlenose dolphin

qualifying interests of the Moray Firth SAC and/or the harbour seal qualifying interest of the Dornoch Firth and Morrich More SAC.

- 9.2 The following projects currently have an active marine licence, section 36 consent, European protected species licence or seal licence and associated AA which identified a likely significant effect on the bottlenose dolphin qualifying interests of the Moray Firth SAC, and/or harbour seal qualifying interests of the Dornoch Firth and Morrich More SAC.

### **9.3 Aberdeen Bay Offshore Wind Farm**

- 9.3.1 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.

### **9.4 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 131.5km<sup>2</sup>. 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 1,116MW 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:

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- 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 is due to be completed in 2021.

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

## **9.6 Moray Offshore East Development, Modified Offshore Transmission Infrastructure**

9.6.1 Modified offshore transmission infrastructure for the consented MORL 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 of the OSPs;
- Inter-platform cabling within the 3 consented wind farms; and
- Up to 4 triple core submarine HVAC export cables between the OSPs and the shore.

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

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

## **9.7 Moray West Offshore Windfarm - Moray Firth**

9.7.1 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.

9.7.2 The operational lifespan of the project is expected to be 25 years. The project covers a total area of approximately 225km<sup>2</sup> 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](#).

## **9.8 Forth and Tay Windfarm Developments**

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

- Neart na Gaoithe Offshore Windfarm Limited development (“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.

9.8.2 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.

## **9.9 Neart na Gaoithe Offshore Windfarm (Revised Design)**

9.9.1 Construction and operation of a wind farm and associated offshore transmission infrastructure located 15.5 km 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.

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

## **9.10 Inch Cape Offshore Windfarm (Revised Design - 2018)**

9.10.1 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.

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

### **9.11 Hywind Scotland Pilot Park**

- 9.11.1 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.
- 9.11.2 Further information regarding the project can be found [here](#).

### **9.12 Aberdeen Harbour Expansion Project**

- 9.12.1 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 December 2021. New licences 07161 and 07035 granted for construction, deposit and use of explosives and capital dredging and sea deposit respectively.
- 9.12.2 Construction includes establishing of north and south breakwaters, construction of closed and open quays; and construction of revetment south of west quay. Deposit and use of explosives will be used to blast localised areas of bedrock, in accordance with updated methodology, construction environment management document and only when an Adaptive Blast Management Plan has been approved. Dredged material suitable for land reclamation will be used for construction of closed and open quays. A maximum of 4,702,737 wet tonnes unsuitable material will be deposited at CR110 Aberdeen site, including what was deposited under previous licence.
- 9.12.3 Dredging will include the North Quay, East Quay, West Quay, Entrance Channel, South East Pier and South Breakwater Trenches, with a maximum of 6,120,000 wet tonnes dredged, including what has been dredged under previous licence.
- 9.12.4 Further information regarding the project can be found [here](#).

### **9.13 Port of Cromarty Firth, Phase 4 Development – Construction and Dredging**

- 9.13.1 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.
- 9.13.2 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.
- 9.13.3 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 110,000m<sup>3</sup> of material which will be deposited at the Sutors dredge spoil deposit area.
- 9.13.4 The works are scheduled to take place between 01 November 2018 and 30 November 2020. A full project description can be found [here](#).

### **9.14 Bear Scotland, Bridge Maintenance – Kessock Bridge**

- 9.14.1 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 mean high water springs. In most cases activity duration is likely to be less than three months and in several activities less than a few weeks. The exception being the painting of the superstructure which will take approximately 4 years to complete.

### **9.15 Ardersier Port Development**

- 9.15.1 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.



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9.15.2 Port entrance/inner channel dredging, quay wall construction/realignment and quayside (berthing) dredging. They are scheduled to start in 2019 and take up to 5 years to complete.

9.15.3 A dredge of 2,300,000m<sup>3</sup> 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.

#### **9.16 Peterhead Port Authority - Revetment Works, Alexandra Parade, Peterhead**

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

9.16.2 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.

9.16.3 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.

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

#### **9.17 Scrabster Harbour Trust - St Ola Pier Redevelopment**

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. The Works also include approximately 0.84ha of land reclamation to the north of St. Ola Pier. 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, 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. 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 172,000m<sup>3</sup> 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 63,000m<sup>3</sup>, 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. New fuel and water lines are also to be constructed and connected to the redeveloped pier.

## **9.18 Seal Licence**

9.18.1 The Sea Mammal Research Unit ("SMRU") hold a licence to take seals in Scotland for scientific, research or educational purposes. The proposed activities are carried out throughout the year and the licence is renewed annually in January. Seals are generally released after capture, unless a seal is seriously injured or disabled and has no reasonable chance of recovering. If a seal is injured while being taken, appropriate veterinary care is administered, up to a maximum of 1420 seals maybe taken under the authority of the licence in any given year.

## **9.19 Neart na Gaoithe Offshore Wind Farm (Revised Design) - Unexploded Ordnance Clearance - Firth of Forth**

9.19.1 The proposal is to remove several UXO across the Neart na Gaoithe Offshore wind farm area and export cable route corridor which is located in the northeast of the Firth of Forth. Geophysical survey work is ongoing to confirm and identify UXO within the area. As this survey has not yet completed NnGOWL has applied for a marine licence and a European protected species licence based on the worst case assumption that the clearance of up to fifty UXO will be required to be detonated by conventional donor charge method (with a maximum explosive charge weight of 500kg for a single detonation). Detonation of the UXO generates a loud underwater sound which poses a risk to marine wildlife in proximity, NnGOWL has proposed mitigation to minimise these risks including Marine Mammal Observers (MMO), passive acoustic monitoring (PAM), the use of acoustic deterrent devices (ADD) and soft start charges. NnGOWL may also micro-site to avoid UXO or relocate UXO, if this

Appropriate Assessment for Global Energy Group (per EnviroCentre) Nigg Energy Park East Quay Development. July 2020.

is possible. NnGOWL propose to begin the UXO clearance works in April 2020 and complete the works by the end of July 2020.

## **9.20 Cromarty Community Development Trust – Slipway alteration and improvement - Nigg**

9.20.1 The slipway is to have the concrete replaced in the same footprint as it currently stands or if funding allows, it will be extended by 20 metres (“m”) to 60m and the width extended from 4m to 12m and the depth increased by -1.0m Chart Datum. There are two options that are proposed for the works, construction with blockwork or construction using piles. The works are planned to take place between 18 June 2020 and 28 February 2023.

## **9.21 Cromarty Community Development Trust – Slipway alteration and improvement – Cromarty**

9.21.1 The slipway is to have the concrete replaced in the same footprint as it currently stands or if funding allows, it will be extended by 20 metres (“m”) to 60m and the width extended from 5.5m to 12m and the depth increased by -1.0m Chart Datum. There are two options that are proposed for the works, construction with blockwork or construction using piles. The works are planned to take place between 18 June 2020 and 28 February

## **9.22 BOWL Geophysical Surveys**

9.22.1 The works involve geophysical surveys at the site of Beatrice Offshore Windfarm transmission infrastructure and turbine sub structures, located in the Outer Moray Firth approximately 13.5 km from the Caithness coastline, off the North East of Scotland and comprised of 84 fixed wind turbines, two offshore transformer modules, inter-array cables and two subsea export cables. The survey operations are scheduled to be undertaken between June 2020 and December 2023. There will be numerous survey campaigns within this period, with a total duration of 365 days.

## **9.23 Global Energy Nigg Ltd - Removal of Two Dolphin Moorings - NiggEnergy Park Cromarty Firth**

9.23.1 The works are to dismantle and remove two mooring dolphins which restrict access to the south quayside of at Nigg Energy Park. The works will require the exposure of the piles to a depth of -16m CD to facilitate cutting of the seabed pile at -14 CD, removal of fendering and decking before levelling of the seabed using available plant. The works will be between 29 June 2020 and 30 June 2023.

## 9.24 Dredging Operations

9.24.1 There are a number of dredging operations which were identified as having a likely significant effect on the bottlenose dolphins qualifying interest of the Moray Firth SAC and/or the harbour seal qualifying interest of the Dornoch Firth and Morrich More SAC. The table below summarises these projects.

**Table 3: Dredging operations identified as having a likely significant effect on the Moray Firth SAC and or the Dornoch Firth and Morrich More 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 2020 – March 2021
Cromarty, West Harbour	Port of Cromarty Firth	10000m <sup>3</sup>	Sutors	May 2019 – May 2022
Cullen	Moray Council	10,000 wet tonnes	Buckie	Feb 2020 – Feb 2023
Portknockie	Moray Council	10,000 wet tonnes	Buckie	Feb 2020 – Feb 2023
Hopeman	Moray Council	10,000 wet tonnes	Buckie	Feb 2020 – Feb 2023
Findochty	Moray Council	10,000 wet tonnes	Buckie	Feb 2020 – Feb 2023
Montrose	Montrose Port Authority		07149	May 2020 – May 2021

## 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 bottle nose dolphin qualifying interests of the Moray Firth SAC.

- Aberdeen Bay Offshore Windfarm (section 9.3)
- Beatrice Offshore Wind Farm (Section 9.4)
- Moray Offshore East Development (Section 9.5)

- Moray Offshore East Development, Modified Offshore Transmission Infrastructure (Section 9.6)
- Moray Offshore West Windfarm (Section 9.7)
- Forth and Tay Windfarm Developments (Section 9.8)
- Neart na Gaoithe Offshore Windfarm (Section 9.9)
- Inch Cape Offshore Windfarm (Section 9.10)
- Hywind Scotland Pilot Park (Section 9.11)
- Aberdeen Harbour Expansion Project (Section 9.12)
- Port of Cromarty Firth, Phase 4 – Construction and Dredging (Section 9.13)
- BEAR Scotland, Bridge Maintenance – Kessock Bridge (Section 9.14)
- Ardersier Port Development, Construction and Dredging (Section 9.15)
- Peterhead Port Authority, Revetment Works (Section 9.16)
- Scrabster Harbour Trust - St Ola Pier Redevelopment (Section 9.17)
- Seal Licence (Section 9.18)
- Neart na Gaoithe Offshore Wind Farm (Revised Design) - Unexploded Ordnance Clearance - Firth of Forth (Section 9.19)
- Cromarty Community Development Trust – Slipway alteration and improvement – Nigg (Section 9.20)
- Cromarty Community Development Trust – Slipway alteration and improvement – Cromarty (Section 9.21)
- BOWL – Geophysical Surveys (Section 9.21)
- Global Energy Nigg Ltd - Removal of Two Dolphin Moorings - Nigg Energy Park Cromarty Firth (Section 9.22)
- 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 bottlenose dolphin qualifying interest of the Moray Firth SAC were only identified during the construction phase for these projects.

9.25.3 The will be no adverse in combination effects with Moray Offshore East Development; Moray Offshore East Development, Modified Offshore Transmission Infrastructure; Forth and Tay Windfarm Developments; Neart na Gaoithe Offshore Windfarm; Inch Cape Offshore Windfarm. Likely significant effects on the bottlenose dolphin qualifying interest of the Moray Firth SAC were identified as a result of noise from piling activities during these projects. The project timings are such that there should be no temporal overlap in piling activities and providing the conditions in all of the respective AAs are adhered to, there will be no adverse in combination effect on the site integrity of the Moray Firth SAC.

- 9.25.4 There is a potential in combination effect from the Port of Cromarty Firth, Phase 4 – Construction and Dredging works with the GEG works due to the similarity and close proximity of the projects. However, with implementation of all proposed mitigation detailed in both proposals there will be no adverse effect on the integrity of the Moray Firth SAC.
- 9.25.5 There will be no adverse in combination effects from the various dredging operations noted in Table 3 due to the use of multiple different deposit sites (Aberdeen, Sutors, Buckie, Scrabster and Montrose) as well as duration and timing of each operation. If all works are undertaken in line with the AA conditions for each proposal this will ensure no combined adverse impact on the site integrity of the Moray Firth SAC.
- 9.25.6 MS-LOT conclude that although in combination effects with the remaining projects listed above are possible, providing all projects are carried out in line with the conditions of their respective AAs then any in combination effects will not be significant.

## **9.26 Assessment of in-combination effects on the Dornoch Firth and Morrich More SAC**

- 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 Dornoch Firth and Morrich More SAC.
- Beatrice Offshore Wind Farm (Section 9.4)
  - Moray Offshore East Development, Modified Offshore Transmission Infrastructure (Section 9.6)
  - Port of Cromarty Firth, Phase 4 – Construction and Dredging (Section 9.13)
  - Seal Licence (Section 9.18)
  - BOWL – Geophysical Surveys (Section 9.21)
  - Dredging Operations (Section 9.23)
- 9.26.2 There will be no adverse in combination effects with the Moray Offshore East Development, Modified Offshore Transmission Infrastructure as all piling should be complete before the GEG Project begins. Likely significant effects on the Dornoch Firth and Morrich More SAC were identified as a result of noise generation during piling operations.

- 9.26.3 The will be no adverse in combination effects with the Beatrice Offshore Wind Farm, or Moray Offshore West Windfarm as both will be in the operational phase. Likely significant effects on the Dornoch Firth and Morrich More SAC were identified during the construction phase only.
- 9.26.4 There is a potential in combination effect from the Port of Cromarty Firth, Phase 4 – Construction and Dredging Project with the GEG Project due to the similarity and close proximity of the projects. However, with implementation of all proposed mitigation detailed in both proposals there will be no adverse in combination effect on the integrity of the Dornoch Firth and Morrich More SAC.
- 9.26.5 There are a number of dredging operation which may overlap however they use a variety of deposit sites. Strict adherence to the conditions set out in the individual AA's will mitigate against a cumulative adverse effect on the qualifying interests of the Dornoch Firth and Morrich More SAC.
- 9.26.6 Given the temporary and localised level of disturbance and the low risk of injury from the GEG proposal either alone or in-combination with any/all of these projects there will not be an adverse cumulative effect on the site integrity of the Dornoch Firth and Morrich More SAC.

## **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 Moray Firth SAC or the Dornoch Firth and Morrich More SAC from the GEG proposal either in isolation or in-combination with other projects detailed above, providing the conditions in Section 4 are adhered to.

## **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 Moray Firth SAC or the Dornoch Firth and Morrich More SAC.
- 11.2 The licensee must ensure that the project is carried out in accordance with the Technical Appendix 4.1; Marine Mammal Mitigation Plan (“MMMP”) dated June 2019. In the event that the licensee wishes to update or amend any of the protocols within 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.

11.3 The licensee must submit a Construction Environmental Management Plan (“CEMP”) to the licensing authority for its written approval at least two months prior to commencement of the works, or less if agreed by the licensing authority. The CEMP must be consistent with the marine licence application and supporting documents and must contain, but not be limited to, the following:

- a) Mitigation and management measures for the CEMP outlined in Chapter 9: Schedule of Mitigation in the Nigg East Quay Volume 1: Environmental Impact Assessment Report dated 19 June 2019.
- b) A protocol for unknown archaeological finds.

All works must proceed in accordance with the approved CEMP. Any updates or amendments made to the CEMP must be submitted, in writing, to the licensing authority for its written approval no later than two months or at such a time as agreed with the licensing authority, prior to the planned implementation of the proposed amendments. It is not permissible for any works to commence prior to approval of the CEMP.

11.4 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.