

**MARINE SCOTLAND LICENSING OPERATIONS TEAM'S (MS-LOT)
ASSESSMENT OF THE PROJECT'S IMPLICATIONS FOR DESIGNATED
SPECIAL AREAS OF CONSERVATION ("SACs") IN VIEW OF THE SITES'
CONSERVATION OBJECTIVES.**

**APPLICATION FOR A VARIATION TO A EUROPEAN PROTECTED SPECIES
LICENCE UNDER THE CONSERVATION (NATURAL HABITATS, &C.)
REGULATIONS 1994 (AS AMENDED) AND THE CONSERVATION OF
OFFSHORE HABITATS AND SPECIES REGULATIONS 2017 FOR GEOPHYSICAL
SURVEYS**

**SITE DETAILS: MORAY EAST OFFSHORE WINDFARM, 22KM OFFSHORE ON
THE SMITH BANK IN THE MORAY FIRTH.**

Name	Assessor or Approver	Date
██████████	Assessor	29/06/2017
██████████	Approver	04/07/2017
Updated to take account for application for variation*		
██████████	Assessor	16/03/2018
██████████	Approver	16/03/2018
Updated to take account for application for variation**		
██████████	Assessor	30/08/2018
██████████	Approver	30/08/2018
Updated to take account for application For variation***		
██████████	Assessor	14/11/2018
██████████	Approver	16/11/2018

Appropriate Assessment for Moray East Offshore Wind Farm – Geophysical and geotechnical survey programme. Updated to take account of variation to EPS licence. November 2018

*Having been granted an EPS licence on 12 July 2017, Moray East submitted an application for a variation to this licence, which was accepted on 28 February 2018. This required a further appropriate assessment and this document has been updated to reflect the information received and the advice provided by SNH. The changes are in:

Section 7

Figure 1

Paragraphs 1.1, 1.2, 1.3, 3.3, 3.4, 4.2, 5.2, 5.6, 5.7 and 6.3

**Moray East submitted an application for a variation to the extension of the EPS licence granted on 12 July 2017. The variation application was accepted on 11 July 2018. This required a further appropriate assessment and this document has been updated to reflect the information received and the advice provided by SNH. The changes are in:

Paragraphs 1.4, 1.5, 3.3, 3.4, 4.3, 5.3 , 7.38 and 7.39

For the purposes of this variation application any reference to the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 should be read as the Conservation of Offshore Marine Habitats and Species Regulations 2017.

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Paragraphs 1.6, 1.7, 3.3, 4.2, 4.3, 4.4, 5.4, 7.2, 7.5, 7.8, 7.19, 7.29, 7.30, 7.31 and 8

For the purposes of this variation application any reference to the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 should be read as the Conservation of Offshore Marine Habitats and Species Regulations 2017.

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LICENCE UNDER THE CONSERVATION (NATURAL HABITATS, &C.)
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OFFSHORE HABITATS AND SPECIES REGULATIONS 2017 FOR
GEOPHYSICAL SURVEYS AND CHANGES TO THE GEOTECHNICAL SURVEYS

SECTION 1: BACKGROUND

1 Appropriate assessment ("AA") conclusion

- 1.1 This AA concludes that the Moray East survey work that is proposed to take place from 13 July 2017 to 30 June 2018 will not adversely affect the site integrity of the Moray Firth SAC in relation to bottlenose dolphin or the Dornoch Firth and Morrich More SAC in relation to harbour seal either in isolation or in-combination with the developments described below.
- 1.2 Moray East subsequently proposed to extend the European Protected Species ("EPS") licence from 30 June 2018 to 31 August 2018 and have amended their survey methodology by increasing both the survey area and total number of working survey days. In addition, the survey periods will be at different times of the year and the frequency range for some of the equipment also differs.
- 1.3 A second AA was undertaken for the proposed variation and MS-LOT concluded that the Moray East proposed variation to the survey work does not change the conclusion outlined above.
- 1.4 Moray East subsequently proposed to extend the European Protected Species ("EPS") licence from 31 August 2018 to 15 November 2018. In addition, the survey periods will be at different times of the year, the equipment with the highest potential impact has been discarded and two vessels will be involved in the surveys.
- 1.5 A third AA was undertaken for the proposed variation and MS-LOT concluded that the Moray East proposed variation to the survey work does not change the conclusion outlined above.
- 1.6 Moray East subsequently proposed to extend the European Protected Species ("EPS") licence from 15 November 2018 to 31 January 2019.
- 1.7 A fourth AA was undertaken for the proposed variation and MS-LOT concluded that the Moray East proposed variation to the survey work does not change the conclusion outlined above.

2 Introduction

- 2.1 This is a record of the AA of the proposal by Moray East Offshore Windfarm (“Moray East”) to carry out geophysical and geotechnical survey work to inform engineering studies. The assessment has been carried out by Marine Scotland’s Licensing Operation Team (“MS-LOT”). As the proposal is to carry out these surveys in areas that will fall both within and outwith 12 nautical miles (“nm”) the following regulations will apply:
- Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994 for marine licence applications for the part of the works within 12 nm.
 - Regulation 25 of the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 for the part of the project that is outside of 12 nm.
- 2.2 This AA is in accordance with Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora. MS-LOT, as the ‘competent authority’ under the Regulations, has to be satisfied that the project will not cause an adverse effect on the integrity of any European site, in this case special areas of conservation (“SAC”).
- 2.3 A detailed AA has been undertaken and Scottish Natural Heritage (“SNH”) has been consulted.

3 Details of proposed operation

- 3.1 The Moray East development has [consent](#) for 1,116 mega watts (“MW”) of offshore wind generation in the outer Moray Firth.
- 3.2 Moray East propose to carry out geophysical and geotechnical survey work required for the installation of the wind farm (see Figure 1). Moray East have provided a detailed [EPS Risk Assessment](#) for these works and this is used to inform this AA. Moray East have provided an update to the Risk Assessment to inform the proposed variation to the EPS licence. Moray East have provided a technical note in support to the proposed variation to the extension of the EPS licence.

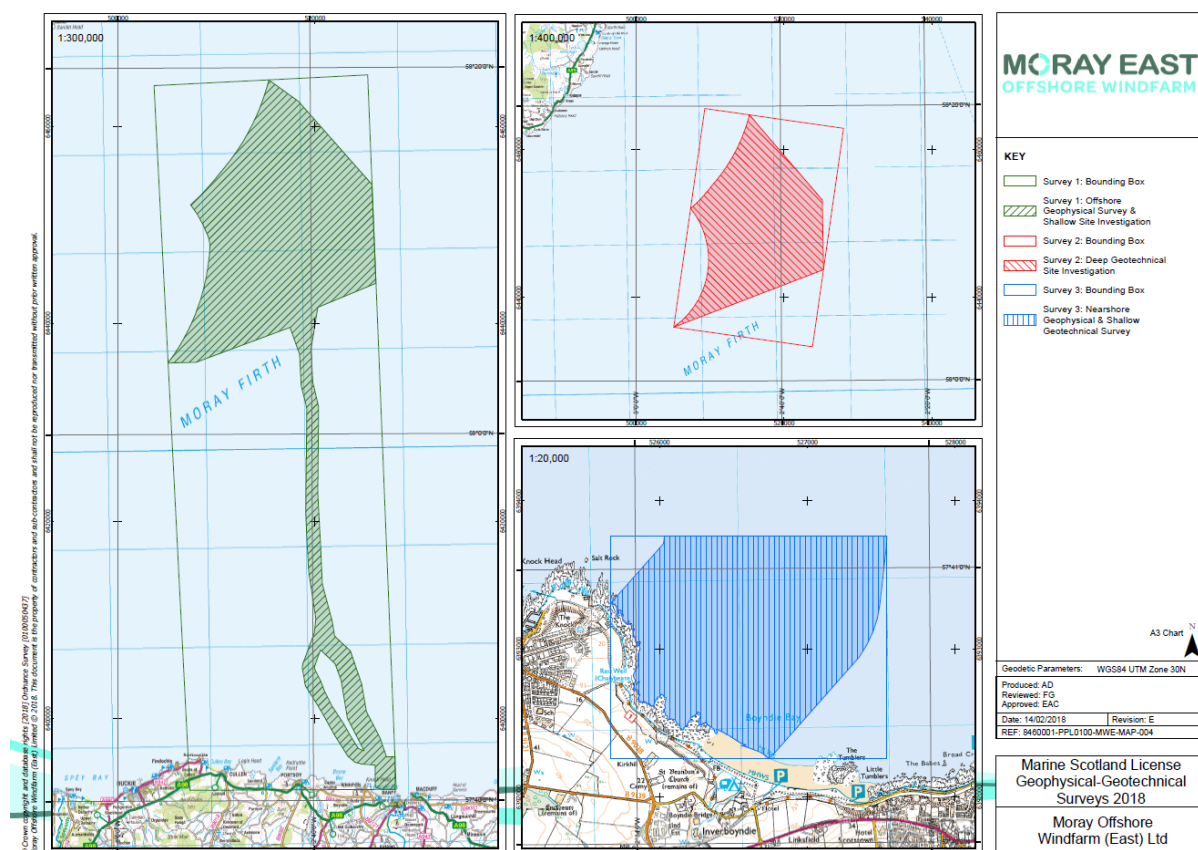


Figure 1 Location of the geotechnical and geophysical surveys.

3.3 The proposed operation will consist of the following surveys and the EPS licence states these can be carried out between 13 July 2017 to 30 June 2018. A variation was granted to continue these works from 17 March 2018 and 31 August 2018. proposed further variation was granted to continue the surveys from 31 August 2018 to 15 November 2018. The current proposal is to continue the surveys until 31 January 2019.

Survey 1: Offshore Geophysical Survey and Shallow Site Investigation

3.4 An offshore geophysical survey will cover the inter-array cable route corridors as well as the export cable route, from the Offshore Substation Platform locations to the site boundary for each survey area.

Survey 2: Deep Geotechnical Site Investigation

3.5 This part of the works will involve using information obtained from boreholes to prove the ground model developed from the interpretation of the geophysical survey.

Survey 3: Nearshore Geophysical and Shallow Geotechnical Survey

3.6 The nearshore geophysical survey will involve multi-beam bathymetry, side-scan sonar, magnetometer and sub-bottom profiler to provide data on bathymetry, seabed features and sub-bottom conditions to input into the turbine foundation process.

4 Consultation

- 4.1 SNH were consulted on the initial application on 17 May 2017 and replied on 23 June 2017 that an AA was required.
- 4.2 For the first variation SNH were consulted on 02 March 2018 and responded on 09 March 2018.
- 4.3 For the second variation SNH were consulted on 20 July 2018 and responded on 15 August 2018. Further information on the survey was sent to SNH on 10 August 2018. In addition, SNH were consulted on the likely significant effects on Moray Firth SAC and Dornoch Firth and Morrich More SAC, and response was received on 24 August 2018.
- 4.4 For the proposed third variation to extend the licence period, SNH were consulted on 23 October 2018 and responded on 29 October 2018.

5 Main issues raised during consultation

- 5.1 SNH noted that the proposal is likely to have a significant effect on bottlenose dolphin (*Tursiops truncatus*) in relation to the Moray Firth SAC and harbour seal (*Phoca vitulina*) in relation to the Dornoch Firth and Morrich More SAC.
- 5.2 In their response of 09 March 2018 in relation to the proposed variation to the EPS licence SNH noted that they were content with the proposed variation and supported the implementation of the mitigation detailed in the updated EPS risk assessment provided by Moray East.
- 5.3 In their responses of 15 August 2018 in relation to the proposed extension to the EPS licence SNH noted that they were content with the proposed variation, the equipment proposed to be used and the use of two vessels.
- 5.4 In their response of 29 October 2018, SNH confirmed that the proposed extension would have no adverse effect on the site integrity of the Moray Firth SAC in relation to bottlenose dolphin (*Tursiops truncatus*) or the Dornoch Firth and Morrich More SAC in relation to harbour seal (*Phoca vitulina*) either alone or in combination

SECTION 2: INFORMATION ON NATURA SITES

- 5.5 This section provides links to the Scottish Natural Heritage Interactive (“SNHi”) website where the background information on the site being considered in this assessment is available. The qualifying interests for the site are listed as are the conservation objectives.

Table 1 Name of Natura site affected and current status

Moray Firth SAC:

https://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8327

Dornoch Firth and Morrich More SAC:

http://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8242

Table 2 European qualifying interests

Moray Firth SAC:

Bottlenose dolphins (*Tursiops truncatus*)

Subtidal sandbanks

Dornoch Firth and Morrich More SAC:

Atlantic salt meadows

Coastal dune heathland

Dune grassland

Dunes with juniper thickets

Estuaries

Glasswort and other annuals colonising mud and sand

Harbour seal (*Phoca vitulina*)

Humid dune slacks

Intertidal mudflats and sandflats

Lime-deficient dune heathland with crowberry

Otter (*Lutra lutra*)

Reefs

Shifting dunes

Shifting dunes with marram

Subtidal sandbanks

Table 3 Conservation objectives

Moray Firth SAC

Bottlenose dolphins (*Tursiops truncatus*)

To avoid deterioration of the habitats of the qualifying species 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

Dornoch Firth and Morrich More SAC:

Harbour seal (*Phoca vitulina*)

Conservation objectives as above.

SECTION 3: ASSESSMENT IN RELATION TO REGULATION 48 OF THE CONSERVATION (NATURAL HABITATS, &C.) REGULATIONS 1994 AND REGULATION 25 OF THE OFFSHORE MARINE CONSERVATION (NATURAL HABITATS, &C.) REGULATIONS 2007

5.6 *Is the operation directly connected with or necessary to conservation management of the site?*

The operation is not directly connected with or necessary to conservation management of the site.

5.7 *Is the operation likely to have a significant effect on the qualifying interest?*

In their response dated 23 June 2017 SNH advised that the proposal would have a likely significant effect on:

Moray Firth SAC

- Bottlenose dolphins (*Tursiops truncatus*)

Dornoch Firth and Morrich More SAC

- Harbour seal (*Phoca vitulina*)

In coming to this conclusion SNH took into account the following:

- The wide ranging behaviour of the bottlenose dolphin and harbour seal which means there could be connectivity between the survey areas and the SACs (although SNH noted that seal tagging work currently underway indicates very little occurrence of harbour seal within the wind farm area)
- The distribution of bottlenose dolphin sightings in the Moray Firth, the majority of which occur along the southern coastline

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- Whether the species are sensitive to any of the potential impacts identified
- Whether or not there is potential for any of the conservation objectives to be undermined

5.8 SNH advised there could be a likely significant effect from the geophysical survey programme on these species, particularly the bottlenose dolphins of the Moray Firth SAC, and that these impacts will need further consideration. SNH provided advice to inform an AA. SNH advised that the geotechnical survey is unlikely to affect either bottlenose dolphin or harbour seal and any drilling noise is likely to be masked by vessel noise. SNH confirmed in their response on 09 March 2018 that their advice from 23 June 2017 is still applicable.

5.9 MS-LOT agree with this advice and have undertaken an AA for the geophysical survey for the Moray Firth SAC in relation to bottlenose dolphin and for the Dornoch Firth and Morrich More SAC in relation to harbour seal. This AA has subsequently been updated to take account of the proposed variation to the EPS licence.

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

6.1 MS-LOT have considered the advice provided by SNH and have used it to support this assessment.

6.2 SNH advise that the relevant conservation objective to consider is the maintenance of each species as a viable component of the respective SACs. This can encompass impacts to individuals while they are outwith the SAC e.g. impacts from the noise emitted during geophysical survey work.

6.3 SNH have based their advice on the information contained within the EPS Risk Assessment and associated updates. Bottlenose dolphin are an EPS but harbour seal are not and were not included in the Moray East risk assessment. However, the advice provided by SNH in relation to mitigation will apply to all marine mammals.

6.3.1 Moray Firth SAC – bottlenose dolphin

- 6.3.2 SNH advise there could be a localised risk of injury to bottlenose dolphin where the source level from the survey equipment is high enough. This is particularly applicable to the nearshore survey and the use of high-frequency seismic equipment. However, compliance with the Joint Nature Conservation Committee’s (“JNCC”) guidelines (see below) will reduce the localised risk of auditory injury to negligible levels.
- 6.3.3 The noise emitted from the suite of geophysical equipment may cause disturbance to bottlenose dolphin. However, as the nearshore survey work is expected to take ~15 days, any disturbance will be limited in duration and will not lead to any significant consequences for the SAC population.

6.4 Dornoch Firth and Morrich More SAC – harbour seal

- 6.4.1 SNH notes that although harbour seal was not included in the EPS Risk Assessment the required mitigation (see below) applies to all marine mammals and will reduce the risk of any auditory injury to harbour seal. There is unlikely to be any significant or long-term disturbance of individual animals (especially as they are not being recorded with any great frequency on-site) such that there will not be any significant impacts to the harbour seal population at Dornoch Firth and Morrich More SAC.
- 6.5 Based on advice from SNH and information within the EPS Risk Assessment the following mitigation measures are required:
- Use of the JNCC protocol should be conditioned in the EPS licence. For the seismic work the mitigation zone should be 500m. This could be reduced for other high frequency equipment, but it depends on the various timings so may be simplest to use 500m for all geophysical activities. However, if occurring at distinct times, then the mitigation zone for the higher frequency survey work (100,Hz and above) could be reduced to 100m. SNH agree that the duration of watch should be 30 minutes as described in the EPS Risk Assessment.
 - Passive Acoustic Monitoring (“PAM”) should be used when visual mitigation is not possible, e.g. during hours of darkness, or in periods of low visibility. It should be undertaken by a PAM specialist dedicated to the role.
 - The nearshore survey work presents the greatest risk of disturbance, particularly to bottlenose dolphins as it is a key transit route between the Tay and the Moray Firth SAC for this species. SNH therefore recommend that the survey transects are planned to go from the coast seawards to avoid the potential of trapping individuals close to the shore. SNH also

advise that the Marine Mammal Observer (“MMO”) duties should be undertaken by experienced personnel dedicated to that role.

- There is less risk for the offshore survey so SNH advise that the MMO duties can be undertaken by a suitably experienced and JNCC trained member of the crew who may have other duties, but is dedicated to the mitigation at the appropriate time.

6.6 SNH note that based on their appraisal and by adopting these mitigation requirements they are satisfied there will be no long-term impacts on the bottlenose dolphin population as a viable component of the Moray Firth SAC. SNH note that by applying these mitigation measures there is unlikely to be any significant or long-term disturbance of individual animals and that there will be no significant impacts to the harbour seal population at Dornoch Firth and Morrich More SAC. SNH conclude there is no adverse impact on the site integrity of either the Moray Firth SAC or the Dornoch Firth and Morrich More SAC.

6.7 SNH recommended that MS-LOT carry out an assessment of potential in-combination impacts and provided advice to inform such an assessment.

6.8 MS-LOT agree that the proposed Moray East works alone will have no adverse impact on the site integrity of either the Moray Firth SAC or the Dornoch Firth and Morrich More SAC and have carried out an in-combination assessment as outlined below.

7 In-combination assessment

7.1 MS-LOT have identified current projects where a likely significant effect has been identified on bottlenose dolphin or harbour seal in either of these two SACs. Only those projects with an active marine licence or EPS licence have been included in this list.

Aberdeen Harbour Expansion Project

7.2 Aberdeen Harbour Board proposes to develop 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 disposal operation. Works commenced in late 2016 and are scheduled to take place over a 3-year period. Dredging operations are expected to last until September 2019, which is when their dredging licence expires. Blasting operations commenced in September 2018 for a maximum of 7 consecutive months. They are no longer undertaking any impact piling as they will be using rotary piling, which is thought to produce less noise.

7.3 A likely significant effect was identified for the Moray Firth SAC in relation to bottlenose dolphins. The potential impacts identified were:

Construction

- Underwater noise arising from blasting, drilling and dredging with the potential to result in disturbance, injury and death
- Vessel movements causing disturbance and possible risk of injury from collision
- Reduced water quality, including suspended sediments and contaminants which could be harmful to dolphins
- There may also be impacts to the prey species of dolphin – either from the placement of infrastructure (habitat changes, pollution, sediment increase etc.), noise or reduced water quality

Operation

- Vessel movements causing disturbance and possible risk of injury from collision
- Maintenance operations including dredging

- 7.4 The AA for the Aberdeen Harbour Expansion Project acknowledged that there were uncertainties owing to the details of the construction methods not being known and further work being required to verify the assumptions made when undertaking the underwater noise modelling.
- 7.5 The AA noted that the blasting will, where possible, be carried out behind the breakwater to impede the propagation of sound. Where this is not possible the contractor will use a bubble curtain around the blast location. Further mitigation includes restriction of commencement of blasting to day light hours . These time restrictions are included as Marine Mammal Observers are only effective during daylight hours and the break in noisy activity will also allow the dolphins to utilise the area for some of the time. A range of detailed further mitigation is outlined in the AA regarding the underwater noise, vessel movements, reduced water quality and abundance of prey species. Marine Scotland Science also carried out a Population Viability Analysis that included a run to provide a baseline assessment of the bottlenose dolphin population with no impact and further scenarios were run with different developments added.
- 7.6 The conclusion of the AA was that the Aberdeen Harbour Expansion Project alone or in-combination with other plans or projects would not adversely affect the integrity of the Moray Firth SAC with respect to bottlenose dolphin.
- 7.7 For the Moray East survey works SNH recommend that if possible the nearshore geophysical survey work (Survey 3) is completed prior to the start of blasting in Aberdeen Harbour.
- 7.8 MS-LOT conclude that the Moray East survey work in-combination with the Aberdeen Harbour Expansion Project will not adversely affect the integrity of the Moray Firth SAC in relation to bottlenose dolphin. MS-LOT agree with SNH's recommendation that if possible the Moray East nearshore survey work is completed before blasting starts at Aberdeen Harbour and this will be included as a condition on the EPS licence.
- 7.9 The Moray East nearshore survey work was completed on 25 April 2018

Beatrice Offshore Wind Farm (“BOWL”)

7.10 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 eastern edge of the development site is adjacent to the proposed MORL Eastern Development Area comprising the proposed Telford Offshore Windfarm, Stevenson Offshore Windfarm and MacColl Offshore Windfarm. The operational lifespan of the wind farm is expected to be 25 years. The construction programme is expected to cover a period of three to five years. BOWL construction started in April 2017 and will continue until approximately the end of 2019.

7.11 A full project description can be found [here](#).

7.12 As part of the application process for the BOWL and Moray Offshore Renewables Limited (“MORL”) undertook work to assess the effect of the construction of both windfarms on harbour seals and bottlenose dolphins. This work informed the AAs for both these projects, which concluded that BOWL and MORL projects alone and in-combination with projects already consented at that time will not adversely affect the site integrity of the Moray Firth SAC with respect to bottlenose dolphin or the Dornoch Firth and Morrich More SAC with respect to harbour seal.

Based on previous work MS-LOT conclude that the work to construct the MORL project in-combination with the BOWL project will not have an adverse effect on the site integrity of the Moray Firth SAC in relation to bottlenose dolphin or the Dornoch Firth and Morrich More SAC in relation to harbour seal.

European Offshore Wind Deployment Centre

7.13 Installation and operation of a European Offshore Wind Deployment Centre (“EOWDC”) 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.

7.13.1 The AA for this project concluded that there would be no adverse effect on the site integrity of the Moray Firth SAC provided that the conditions set out in the AA are complied with. Given the distance between the two projects and the relatively small amount of time that Moray East are performing the works, MS-LOT conclude there will be no cumulative impact with the proposed dredging operations on the Moray Firth SAC.

Forth and Tay Windfarm Developments

- 7.14 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.
- 7.15 A full project description for each development can be found here: [NNGOWL](#), [ICOL](#), [SAWEL](#), [SBWEL](#).
- 7.16 The developers for these projects are currently in the process of applying for new consents or to vary their current licences. The work to construct these wind farms will not be starting within the timeframe of the Moray East proposed variation apart from NNGOWL who are conducting a geophysical survey but given the distance between the two projects and small time scale of the work MS-LOT consider that there will not be an in-combination effect on the Moray Firth SAC or the Dornoch Firth and Morrich More SAC.

Hywind Scotland Pilot Park

- 7.17 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 (“WTGs”) 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.
- 7.18 A full project description can be found [here](#).
- 7.19 The AA for this project concluded that there would be no adverse effect on the site integrity of the Moray Firth SAC. Given the fact that the main risk identified from the Hywind Pilot Park was in relation to cable laying activities, which are now complete, MS-LOT conclude there will be no cumulative impact with the proposed geophysical surveys on the Moray Firth SAC.

Montrose Port Authority, construction of new quay

- 7.20 The proposed works include the construction of a new quay wall and hard standing area.
- 7.21 MS-LOT concluded that providing the work is undertaken strictly in accordance with the mitigation outlined by SNH there would be no adverse effect on the site integrity of the Moray Firth SAC.
- 7.22 MS-LOT conclude that, if the works for the Montrose Port Authority works and the Moray East proposed variation are undertaken in accordance with the mitigation outlined in Section 4, there will be no adverse effect on the site integrity of the Moray Firth SAC in relation to bottlenose dolphin.

Port of Ardersier, construction work and dredging

- 7.23 The proposals are to establish a port and port-related services for energy-related uses. The current redevelopment proposal at Ardersier identifies the construction of new deep water quay facilities and an associated dredged access channel to cater for offshore installation vessels and concrete foundation structure for offshore wind farm developments.
- 7.24 The AA for the Ardersier works concluded that the impacts could be sufficiently mitigated and there would be no adverse effect on the site integrity of the Moray Firth SAC or the Dornoch Firth and Morrich More SAC.
- 7.25 This project is currently on hold and works will not be starting until after the Moray East proposed geophysical works have finished. MS-LOT therefore conclude that the Moray East survey work in-combination with the Ardersier project will not have an adverse effect on the site integrity of the Moray Firth SAC in relation to bottlenose dolphin or the Dornoch Firth and Morrich More SAC in relation to harbour seal.

Scottish Water, upgrade to waste water treatment works - Ardersier

- 7.26 The Scottish Water proposal is to extend the outfall pipe to the lowest astronomical tide by installing a new 310 metre long pipe in order to meet SEPA's dilution requirements. The works will involve clearance of rock armour on the foreshore to enable the removal of existing manhole chambers. A short section of sheet pile cut will be installed using vibro-piling to just seaward of Mean High Water Springs. A pipeline trench will then be excavated using a jack up barge. The trench will be graded due to the gravelly substrate so may be up to 27 metres wide at the surface to allow a 1 metre width at the base. A pair of small diameter tubes will be installed using vibro-piling at 50 metre intervals along either side of the trench to keep the pipeline centralised within the trench during pipe pulling operations. The new pipe will be filled with air to make it buoyant while it is pulled into position. It will then be gradually flooded to allow it to sink into the trench. It will be weighted down with pre-cast concrete collars. A diffuser will be installed at the end of the pipe before the trench is backfilled using excavated material.

7.27 The works are scheduled to commence in January 2019 and be completed by March 2019, however, there is the potential for delay caused by weather conditions, making it unsafe to carry out crew transfer on and off the jack-up barge. This may mean that the works cannot be completed until the end of May 2019.

7.28 As the Scottish Water works will not start until January 2019, MS-LOT conclude that there will be no in-combination effect with the Moray East proposed variation owing to the limited overlap in timings of these works and the Moray East proposed variation.

SSE, works along the Caithness to Moray subsea cable route

7.29 SSE applied for an EPS licence for geophysical survey works, use of positioning equipment, and cable laying activities along the route of the Caithness to Moray high-voltage, direct current (“HVDC”) cable. The survey works consist of use of geophysical equipment which emits sound and noise generated from cable laying activities. The cable laying works are licensed until 31 March 2018 and noise activity was anticipated to begin on 01 January 2018 and will continue until 31 March 2018. SSE have applied to vary these licences by extending the timescale of the works to 31 August 2019.

7.30 The AA for the SSE works concluded that there would be no adverse effect on the site integrity of the Moray Firth SAC provided the work is undertaken strictly in accordance with the mitigation outlined by SNH. MS-LOT conclude that, if the works for the SSE works and the Moray East proposed variation are undertaken in accordance with the mitigation outlined in Section 4, there will be no adverse effect on the site integrity of the Moray Firth SAC in relation to bottlenose dolphin.

Dredging operations

7.31 There are a series of dredging operations that had AAs carried out that take into account the Moray Firth SAC and the Dornoch Firth and Morrich More SAC. The table below summarises the dredging that is currently planned to be carried out under marine licence.

Table 4 Summary of dredging operations

Area	Amount of dredged material	Disposal area	Likely significant effects identified
Aberdeen Harbour	215,000 m ³ each year over 3 years	Aberdeen disposal ground	Direct disturbance and/or injury to bottlenose dolphins

Macduff Harbour Basins and Entrance Channel	16, 000 m ³	Macduff	Direct injury of bottlenose dolphins during disposal operations
Portknockie Harbour, Moray	1,000 m ³ per year for three years	Buckie	Direct disturbance and/or injury of bottlenose dolphins during disposal operations
Cullen Harbour, Moray	1,000 m ³ per year for three years	Buckie	
Findochty Harbour, Moray	2,900 m ³ per year for three years	Buckie	
Hopeman Harbour, Moray	500 m ³ per year for three years	Burghead	
Nigg Energy Park, Cromarty Firth	6,000 m ³	Sutors	Direct disturbance and/or injury of bottlenose dolphins during disposal operations and indirect impact on prey species i.e. fish at the disposal site
Cromarty Firth Invergordon	9,920 tonnes	Sutors	

- 7.32 For each of these dredging operations the associated AA required mitigation measures to reduce the risk of harm to marine mammals and, if these were followed, the AAs concluded that there would be no adverse effect on the site integrity of the Moray Firth SAC in relation to bottlenose dolphin or the Dornoch Firth and Morrich More SAC in relation to harbour seals.
- 7.33 MS-LOT note that the dredging disposal operations are within specific locations that have been used for this purpose in the past and have mitigation measures in place to reduce the risk of injury or disturbance to bottlenose dolphin and, where a likely significant effect was identified, to harbour seals. Based on this information, MS-LOT conclude that the dredging and disposal operations in-combination with the Moray East survey work will not have an adverse effect on the site integrity of the Moray Firth SAC in relation to bottlenose dolphin or the Dornoch Firth and Morrich More SAC in relation to harbour seal.

8 MS-LOT conclusion

MS-LOT conclude that the Moray East survey work will not adversely affect the site integrity of the Moray Firth SAC in relation to bottlenose dolphin or the Dornoch Firth and Morrich More SAC in relation to harbour seal either in isolation or in-combination with the developments described above. Based on the SNH advice above in 5.4, this conclusion stands in relation to the extension of the survey work and the inclusion of UXO surveys.

SECTION 4: CONDITIONS

9 Requirement for conditions

9.1 The Moray East survey works are subject to the following conditions:

1. The licensee must ensure that all licensed activities are carried out in strict accordance with the mitigation and working methods proposed in the application for this licence to disturb European protected species, together with supporting information and all licensed activities must be carried out within the timescale given within the application and any subsequent written correspondence between the Scottish Ministers and the applicant, but subject to the following modifications or amendments made within this licence.
2. The licensee must ensure that all licensed activities are carried out in strict accordance with Moray Offshore Windfarm (East) Limited EPS Risk Assessment dated 28/02/2018.
3. In the event of the licensee becoming aware that any of the information on which the issue of this licence was based has changed, the Scottish Ministers must be notified as soon as reasonably practicable.
4. The licensee must ensure that, if any aspects of the licensed activities differ from the detail submitted in the Marine Noise Registry, a new Proposed Activity Form must be completed and submitted no later than one week prior to commencement of the licensed activities.
5. The licensee must ensure that the Joint Nature Conservation Committee (“JNCC”) guidelines for minimising the risk of injury and disturbance to marine mammals from geophysical surveys dated August 2017 (“JNCC Guidance”) is followed at all times in connection with the undertaking of such surveys. These are available from the JNCC website http://jncc.defra.gov.uk/pdf/jncc_guidelines_seismicsurvey_aug2017.pdf
6. The licensee must ensure that where survey equipment has the capability to undergo a soft start procedure, this is implemented on every occasion survey equipment is switched on.

7. The licensee must ensure that all Marine Mammal Observers (MMOs) utilised during nearshore survey works (survey 3) are experienced and qualified and are dedicated solely to the task of observing marine mammals. The licensee must ensure that sufficient MMO coverage is available for all watches during daylight hours.
8. The licensee must ensure that MMOs utilised during the offshore survey (survey 1) are suitably experienced and JNCC trained. This role can be undertaken by a member of the crew who may have other duties but must be dedicated to MMO duties at the appropriate time. The licensee must ensure that sufficient MMO coverage is available for all watches during daylight hours.
9. The licensee must ensure that during the hours of darkness or when visual observation is not possible due to weather conditions or sea state, a proven PAM system and experienced operator dedicated to that role is employed.
10. The licensee must ensure that during nearshore survey works (survey 3) survey transects start at the coast and move seawards to reduce the likelihood that marine mammals are trapped towards the shore.
11. Except where it is not relevant to the provisions of this licence, the Licensee must ensure that the Scottish Marine Wildlife Watching Code is adhered to at all times.