

Appropriate Assessment for Port of Leith, Outer Berth, Construction, Dredging and Sea Deposit December 2022.

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**MARINE SCOTLAND - LICENSING OPERATIONS TEAM'S
ASSESSMENT OF THE PROJECT'S IMPLICATIONS FOR
DESIGNATED SPECIAL AREAS OF CONSERVATION, 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 CONSTRUCTION OF AN IMPROVED BERTH AT PORT OF LEITH OUTER BERTH AND APPLICATION FOR A EUROPEAN PROTECTED SPECIES LICENCE UNDER THE CONSERVATION (NATURAL HABITATS, &C.) REGULATIONS 1994 FOR DISTURBANCE TO EUROPEAN PROTECTED SPECIES.

SITE DETAILS: PORT OF LEITH OUTER BERTH

Name	Assessor or Approver	Date
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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 Firth of Forth Special Protection Area (“SPA”), Imperial Dock Lock, Leith SPA, Forth Islands SPA, Outer Firth of Forth and St Andrews Bay Complex SPA, River Teith Special Area of Conservation (“SAC”), Isle of May SAC, Firth of Tay and Eden Estuary SAC, Berwickshire and North Northumberland SAC and the Moray Firth SAC, from the proposal submitted by Forth Ports Limited (“the Applicant”) 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 Forth Ports Limited proposal will not adversely affect the integrity of the Firth of Forth SPA, Imperial Dock Lock, Leith SPA, Forth Islands SPA, Outer Firth of Forth and St Andrews Bay Complex SPA, River Teith SAC, Isle of May SAC, Firth of Tay and Eden Estuary SAC, Berwickshire and North Northumberland SAC and the Moray Firth 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 in regards to the Forth Ports Limited proposal to carry out marine construction, dredging and deposit activities and their application for a licence to disturb European Protected Species (“EPS”), associated with the Port of Leith Outer Berth improvement works (“the Works”), as required under Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994 (“the 1994 Habitats Regulations”). MS-LOT, as the 'competent authority' under the 1994 Habitats Regulations, has to be satisfied that the project will not adversely affect the integrity of any European site (special areas of conservation and special protection areas), either alone or in combination with other plans or projects, before it can grant consent for the project.
- 2.2 NatureScot (“NS”), operating name of Scottish Natural Heritage, has been consulted.

3 Details of the Works

- 3.1 The Works involve redeveloping an existing berth on the inner edge of the eastern breakwater and capital dredging and sea deposit of dredged material in order to accommodate windfarm construction and service vessels in Port of Leith.
- 3.2 The Works include the following components located below the Mean High Water Springs (“MHWS”):
- Removal of existing infrastructure and construction of a 125 metre (“m”) long berth;
 - Provision of an area of hardstanding to be used for loading/unloading vessels;
 - Capital dredging to enlarge the existing berth pocket; and
 - Deposit of dredged material at the Narrow Deep B deposit area.

The Works will be carried out as one continuous delivery programme. The expected time to complete the Works is approximately 15 months with various elements of the project being potentially completed concurrently.

- 3.3 The redeveloped berth will be approximately 125 m long and 35 m wide with a further 10 m run off apron. It will be comprised of piles and a suspended concrete deck and be constructed adjoining the western face of the existing concrete lead in jetty. In the area to be expanded into there is currently a row of dolphins connected by walkways. These structures will be removed by cutting off at bed level, from inside the structures and loaded on to a barge prior to the berth redevelopment works.
- 3.4 Following the removal of the existing dolphin piles and walkways, dredging will be required to remove overburden from the area next to the existing berth. Once the overburden has been removed, excavators will be used to place rock armour protection around the base of the existing breakwater prior to the piling works starting. The rock will be stored in the inner harbour and moved out to the excavators in 300 tonne (“t”) loads.
- 3.5 To facilitate the berth redevelopment works, piling platforms will be created going out from the breakwater, using stone fill to enable a crane to operate from there holding the piling hammer. Up to 168 tubular piles will be installed in 6 rows of 28 piles. These piles will be approximately 1.2 m in diameter. A row of 39 piles of approximately 0.8 m diameter will then be installed in front of the group of larger piles and connected with sheet piles. It is estimated that piling will take approximately 160 days. This will involve vibro-piling and impact piling. A sheet pile wall is to be installed next to the existing jetty to support the tubular piles and landward development. It is thought that around 50% of the

piles in the outer 3 rows may require to be drilled. Secondary rock armour will be placed around the base of the piles following installation.

- 3.6 Precast beams will then be installed onto the piles using a crane. Omni planks will be installed and the concrete deck of the new expansion to the quay, forming the berth section, will be poured. Once the concrete on the deck of the quay has set, all deck furniture including fenders, bollards and ladders will be installed.
- 3.7 An area of hardstanding will be created at the rear of the existing jetty at the landward side. This area is to be infilled, if possible with dredged material extracted in the initial clearance of overburden or if this is not suitable, imported material from local quarries. This area will have lighting and drainage infrastructure installed, including new storm water drainage outfalls that will discharge surface water run-off into the sea following suitable treatment.
- 3.8 The dredging and sea deposit operations will be carried out in two phases. The initial dredge involves the dredging of approximately 100,000 wet tonnes of material following the removal existing dolphin piles and walkways. The material will be removed by excavator and if suitable, re-used on site. Failing which, the material will be taken for disposal on land or loaded onto barges and taken to Narrow Deep B designated sea deposit area.
- 3.9 The second phase of dredging will involve enlarging the berth pocket adjacent to the quay. The area of the berth pocket is to be approximately 300 m by 60 m and will be dredged to -9.3 m chart datum ("CD"). Dredging will be undertaken using a backhoe dredger supported by a barge which will take the dredge material to the Narrow Deep B designated sea deposit site. Approximately 115,000 wet tonnes of material will be dredged and deposited during the expansion of the berth pocket.

4 Consultation

- 4.1 The Applicant submitted the marine licence application and supporting information, including an Environmental Impact Assessment Report ("EIA Report") and a report to inform an appropriate assessment ("RIAA") on 11 April 2022. NS and the Royal Society for the Protection of Birds Scotland ("RSPB Scotland") were consulted on these documents on 30 May 2022.
- 4.2 The Applicant submitted additional information on 8 September 2022 ("Additional Information") and NS and RSPB Scotland were consulted on this on 30 September 2022.

4.3 Detailed comments were received from NS and RSPB Scotland and Marine Scotland Science (“MSS”) provided scientific advice.

4.4 In addition, the Applicant submitted an application for an EPS licence and supporting documents on 13 June 2022. NS were consulted on this on 15 June 2022 and provided comments on 15 July 2022.

5 Main points raised during consultation

NS advised that the Works would have a likely significant effect (“LSE”) on the bar-tailed godwit, knot, pink-footed goose, red-throated diver, redshank, Sandwich tern turnstone and the non-breeding waterfowl assemblage qualifying interests of the Firth of Forth SPA, the common tern, lesser black-backed gull, roseate tern, Sandwich tern, shag and the breeding seabird assemblage qualifying interests of the Forth Islands SPA and the common tern, eider and shag bird, the non-breeding waterfowl, non-breeding seabird assemblages and the breeding seabird assemblage qualifying interests of the Outer Firth and St Andrews Bay Complex SPA and the Common tern qualifying interest of the Imperial Dock Lock, Leith SPA. NS also advised that the Works would have a LSE on the sea lamprey, river lamprey and salmon qualifying interest of the River Teith SAC, grey seal qualifying interest of the Isle of May SAC and the Berwickshire and Northumberland Coast SAC. It also advised that the Works would have a LSE on the harbour seal qualifying interest of the Firth of Tay and Eden Estuary SAC and on the bottlenose dolphin qualifying interest of the Moray Firth SAC. On this basis NS advised that an AA was required.

SECTION 2: INFORMATION ON EUROPEAN SITES

6 Background information and qualifying interests for the relevant European sites

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

Table 1 Name of European sites affected and relevant links to SiteLink

<ul style="list-style-type: none">• Firth of Forth SPA https://sitelink.nature.scot/site/8499• Imperial Dock Lock, Leith SPA
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<p>https://sitelink.nature.scot/site/8668</p> <ul style="list-style-type: none">• Forth Islands SPA https://sitelink.nature.scot/site/8500• Outer Firth of Forth and St Andrews Bay Complex SPA https://sitelink.nature.scot/site/10478• River Teith SAC https://sitelink.nature.scot/site/8367• Isle of May SAC https://sitelink.nature.scot/site/8278• Firth of Tay and Eden Estuary SAC https://sitelink.nature.scot/site/8257• Berwickshire and North Northumberland SAC https://sitelink.nature.scot/site/8207• Moray Firth # SAC https://sitelink.nature.scot/site/8327
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Table 2 Qualifying interests

<p>Firth of Forth SPA</p> <ul style="list-style-type: none">• Bar-tailed godwit (<i>Limosa lapponica</i>)• Common scoter (<i>Melanitta nigra</i>)*• Cormorant (<i>Phalacrocorax carbo</i>)*• Curlew (<i>Numenius arquata</i>)*• Dunlin (<i>Calidris alpina alpina</i>)*• Eider (<i>Somateria mollissima</i>)*• Golden plover (<i>Pluvialis apricaria</i>)• Goldeneye (<i>Bucephala clangula</i>)*• Great crested grebe (<i>Podiceps cristatus</i>)*• Grey plover (<i>Pluvialis squatarola</i>)*• Knot (<i>Calidris canutus</i>)• Lapwing (<i>Vanellus vanellus</i>)*• Long-tailed duck (<i>Clangula hyemalis</i>)*• Mallard (<i>Anas platyrhynchos</i>)*• Oystercatcher (<i>Haematopus</i>)• Pink-footed goose (<i>Anser brachyrhynchus</i>)• Red-breasted merganser (<i>Mergus serrator</i>)*• Redshank (<i>Tringa totanus</i>)• Red-throated diver (<i>Gavia stellata</i>)*• Ringed plover (<i>Charadrius hiaticula</i>)*• Sandwich tern (<i>Sterna sandvicensis</i>)• Scaup (<i>Aythya marila</i>)*• Shelduck (<i>Tadorna tadorna</i>)• Slavonian grebe (<i>Podiceps auratus</i>)• Turnstone (<i>Arenaria interpres</i>)• Velvet scoter (<i>Melanitta fusca</i>)*• Wigeon (<i>Anas penelope</i>)*• Waterfowl assemblage <p>* indicates assemblage qualifier only</p>

Imperial Dock Lock, Leith SPA

- Common tern (*Sterna hirundo*)

Forth Islands SPA

- Arctic tern (*Sterna paradisaea*)
- Common tern (*Sterna hirundo*)
- Cormorant (*Phalacrocorax carbo*)*
- Gannet (*Morus bassanus*)
- Guillemot (*Uria aalge*)*
- Herring gull (*Larus argentatus*)*
- Kittiwake (*Rissa tridactyla*)*
- Lesser black-backed gull (*Larus fuscus*)
- Puffin (*Fratercula arctica*)
- Razorbill (*Alca torda*)*
- Roseate tern (*Sterna dougallii*)
- Sandwich tern (*Sterna sandvicensis*)
- Shag (*Phalacrocorax aristotelis*)
- Seabird assemblage

* indicates assemblage qualifier only

Outer Firth of Forth and St Andrews Bay Complex SPA

Seabirds:

- Arctic tern (*Sterna paradisaea*)
- Atlantic puffin (*Fratercula arctica*)*
- Common guillemot (*Uria aalge*)*
- Razorbill (*Alca torda*)*
- Common tern (*Sterna hirundo*)
- European shag (*Phalacrocorax aristotelis*)
- Black-legged kittiwake (*Rissa tridactyla*)*
- Herring gull (*Larus argentatus*)*
- Black-headed gull (*Chroicocephalus ridibundus*)*
- Common gull (*Larus canus*)*
- Little gull (*Hydrocoloeus minutus*)
- Manx shearwater (*Puffinus puffinus*)*
- Northern gannet (*Morus bassanus*)
- Seabird assemblage (breeding and non-breeding)

Waterfowl:

- Common eider (*Somateria mollissima mollissima*)
- Common goldeneye (*Bucephala clangula*)*
- Common scoter (*Melanitta nigra*)
- Long-tailed duck (*Clangula hyemalis*)*
- Red-breasted merganser (*Mergus serrator*)*
- Red-throated diver (*Gavia stellate*)
- Slavonian grebe (*Podiceps auritus*)
- Velvet scoter (*Melanitta fusca*)*
- Waterbird assemblage

* denotes a qualifying feature that is an assemblage feature only.

<p>River Teith SAC</p> <ul style="list-style-type: none">• Atlantic salmon (<i>Salmo salar</i>)• Brook lamprey (<i>Lampetra planeri</i>)• River lamprey (<i>Lampetra fluviatilis</i>)• Sea lamprey (<i>Petromyzon marinus</i>) <p>Isle of May SAC</p> <p>Qualifying habitat:</p> <ul style="list-style-type: none">• Reefs <p>Qualifying species:</p> <ul style="list-style-type: none">• Grey seal (<i>Halichoerus grypus</i>) <p>Firth of Tay and Eden Estuary SAC</p> <p>Qualifying habitat:</p> <ul style="list-style-type: none">• Estuaries• Intertidal mudflats and sandflats• Subtidal sandbanks <p>Qualifying species:</p> <ul style="list-style-type: none">• Common seal (<i>Phoca vitulina</i>) <p>Berwickshire and North Northumberland SAC</p> <p>Qualifying habitat:</p> <ul style="list-style-type: none">• Shallow inlets and bays• Intertidal mudflats• Reefs• Sea caves <p>Qualifying species:</p> <ul style="list-style-type: none">• Grey seal (<i>Halichoerus grypus</i>) <p>Moray Firth SAC</p> <p>Qualifying habitat:</p> <ul style="list-style-type: none">• Subtidal sandbanks <p>Qualifying species:</p> <ul style="list-style-type: none">• Bottlenose dolphin (<i>Tursiops truncatus</i>)

Table 3 Conservation objectives

<p>Firth of Forth SPA</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</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 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
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Imperial Dock Lock, Leith 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 habitat supporting the species
- No significant disturbance of the species

Forth Islands 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

Outer Firth of Forth and St Andrews Bay Complex SPA

1. To ensure that the qualifying features of the Outer Firth of Forth and St Andrews Bay Complex SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.

2. To ensure that the integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA is restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:

2a. The populations of qualifying features are viable components of the site.

2b. The distributions of the qualifying features throughout the site are maintained by avoiding significant disturbance of the species.

2c. The supporting habitats and processes relevant to the qualifying features and they prey/food resources are maintained, or where appropriate restored, at the Outer Firth of Forth and St Andrews Bay Complex SPA.

River Teith SAC

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 maintained in the long term:

- Population of the species, including range of genetic types for salmon, 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

Isle of May SAC

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

Conservation objectives for species:

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 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

Firth of Tay and Eden Estuary SAC

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

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

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

To avoid deterioration of the habitats of the qualifying species (listed above) or significant disturbance to the qualifying species, thus ensuring that the

integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying species that the following are 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

Berwickshire and North Northumberland SAC

The site's conservation objectives apply to the site and the individual species and/or assemblage of species for which the site has been classified (the "Qualifying features" listed above). The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the Favourable Conservation Status of its qualifying features, by maintaining or restoring:

- The extent and distribution of qualifying natural habitats and habitats of the qualifying species
- The structure and function (including typical species) of qualifying natural habitats
- The structure and function of the habitats of the qualifying species
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- The populations of each of the qualifying species
- The distribution of qualifying species within the site

Moray Firth SAC

1. To ensure that the qualifying features of Moray Firth SAC are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.
2. To ensure that the integrity of Moray Firth SAC is maintained or restored in the context of environmental changes by meeting objectives 2a, 2b and 2c for each qualifying feature:

For subtidal sandbanks

2a. Extent and distribution of the habitat within the site.

2b. Structure and function of the habitat and the supporting environment on which it relies.

2c. Distribution and viability of typical species of the habitat.

For bottlenose dolphin

2a. The population of bottlenose dolphin is a viable component of the site.

2b. The distribution of bottlenose dolphin throughout the site is maintained by avoiding significant disturbance.

2c. The supporting habitats and processes relevant to bottlenose dolphin and the availability of prey for bottlenose dolphin are maintained.

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)?

7.2.1 Firth of Forth SPA, Imperial Dock Lock, Leith SPA, Forth Islands SPA and Outer Firth of Forth and St Andrews Bay Complex SPA

7.2.1.1 The RIAA identified the potential for LSE on all the qualifying bird species (excluding golden plover, shelduck and Slavonian grebe) of the Firth of Forth SPA, all the qualifying bird species (excluding artic tern, gannet and puffin) of the Forth Islands SPA, the common tern, eider, shag, wintering waterfowl assemblage and breeding and non-breeding sea assemblage, qualifying interests of the Outer Firth of Forth and St Andrews Bay Complex SPA and the common tern qualifying interest of the Imperial Dock Lock, Leith SPA, due to potential for disturbance; water quality effects; and habitat loss and change of use.

7.2.2 River Teith SAC- Diadromous fish

7.2.2.1 The Works are located approximately 49 km from the River Teith SAC but the RIAA identifies the potential for connectivity between the Works and the SAC due to the migration routes of Atlantic salmon, sea lamprey and river lamprey. The RIAA identified the potential for LSE on these qualifying interests of the River Teith SAC due to underwater noise disturbance from piling operations and dredging; water quality changes due to dredging and deposit activities (resulting in temporary increase in suspended sediment concentration ("SSC") or contaminant release); and habitat quality changes, either from physical loss of habitat or suspension and transportation of fine sediment during dredging and deposit activities.

7.2.3 Isle of May SAC, Firth of Tay and Eden Estuary SAC, Berwickshire and North Northumberland SAC, Moray Firth SAC - Marine mammals

7.2.3.1 The RIAA identifies the potential for connectivity between the Works and the grey seal qualifying interest of the Isle of May SAC and the Berwickshire and North Northumberland Coast SAC; the harbour seal qualifying interest of the Firth of Tay and Eden Estuary SAC; and the bottlenose dolphin qualifying

interest of the Moray Firth SAC, with each of these species being known to travel through the Firth of Forth.

7.2.3.2 The RIAA identifies the potential for LSE on the above qualifying interests due to underwater noise impacts from piling operations and dredging, indirect impacts from water quality changes due to dredging and deposit activities (resulting in temporary increase in SSC or contaminant release) and prey availability changes.

7.2.4 MS-LOT view

7.2.4.1 In its response dated 15 July 2022, NS advised it was generally content with the sites, qualifying interests and LSE identified and assessed within the RIAA. NS did however seek clarity on the details of the initial, preparatory works to be carried out by the Applicant. Based on the Additional Information provided by the Applicant, NS confirmed in their response dated 28th October 2022 that all likely impacts had been considered in the RIAA and no further impacts required to be assessed.

7.2.4.2 MS-LOT agrees with the advice provided by NS and has undertaken an AA for the aforementioned bird species qualifying interests of the Firth of Forth SPA, the Forth Islands SPA and the Outer Firth and St Andrews Bay Complex SPA, the common tern qualifying interest of the Imperial Dock Lock, Leith SPA, the sea lamprey, river lamprey and salmon qualifying interests of the River Teith SAC, the grey seal qualifying interest of the Isle of May SAC and the Berwickshire and Northumberland Coast SAC, the harbour seal qualifying interest of the Firth of Tay and Eden Estuary and the bottlenose dolphin qualifying interest of the Moray Firth SAC.

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

8.1 MS-LOT has considered the marine licence applications, supporting information, including the EIA Report and the RIAA together with the consultation responses from NS and RSPB Scotland and advice provided by MSS.

Firth of Forth SPA, Imperial Dock Lock, Leith SPA, Forth Islands SPA and Outer Firth of Forth and St Andrews Bay Complex SPA

Disturbance

- 8.2 The RIAA identified the potential for the piling activities to have indirect effects of underwater noise on prey items of foraging seabirds from Forth Islands SPA and the foraging common tern qualifying interest of the Imperial Lock Dock, Leith SPA and the Outer Firth of Forth and St Andrews Bay Complex SPA. The RIAA considered however that the disturbance or displacement levels would be limited and other foraging habitat was available. The RIAA noted adherence to the JNCC piling protocol would allow sensitive fish species to move away from the disturbance. In addition, the RIAA assessed any impacts on prey species from the underwater noise from piling activities would be limited to 5.5 months which would affect at a maximum one breeding season, therefore these limited impacts would be temporary.
- 8.3 The RIAA assessed the impact of the airborne noise emissions from the piling activity during the construction phase of the Works on the above qualifying interests of each of the SPAs as identified in the section above. The RIAA identified that, under the exception of the Imperial Dock Lock, Leith SPA, the areas affected by the Works represent only a small proportion of the affected SPAs. The RIAA also noted there is a large amount of suitable alternative habitat available within each of the SPAs. In addition, the duration of the piling activity will overlap with a maximum of one breeding season, with any impacts therefore expected to be temporary and reversible. Of the species that do utilise the areas affected by the Works, the RIAA considered these species as already tolerant to anthropogenic activities and that they will become habituated to the additional disturbance generated by the Works. In order however to reduce the impact of disturbance on those groups that favour the area nearest to Works (breeding common terns, post-breeding common terns and foraging common terns within the port) the RIAA noted the Joint Nature Conservation Committee (“JNCC”), ‘Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise’ (2010) (“the JNCC piling protocol”) will be followed when undertaking piling activities.
- 8.4 The RIAA identified the common tern qualifying interest of the Imperial Dock Lock, Leith SPA and Outer Firth of Forth and St Andrews Bay Complex SPA, during the post-breeding season as an exception to above. The RIAA identified that these individuals utilise a range of roosting/ loafing sites within the port including those in close proximity to the site of the Works. There are alternative roosting/loafing sites within the port that may be suitable for these

individuals but the displacement away from usual roosting sites represents a loss of habitat. In order to prevent this impact the RIAA noted that a piling shroud shall be used during piling operations to reduce the area affected by the loudest noise and to reduce the noise emissions overall.

- 8.5 NS advised it was generally content with the assessment in the RIAA however highlighted that the conservation objectives of the Outer Firth of Forth and St Andrews Bay Complex SPA means that the Works must not prevent or reduce the potential recovery of the common tern qualifying interest. NS advised that there is the potential for disturbance to breeding terns at the Imperial Dock Lock, Leith SPA (which is functionally linked to the Outer Firth of Forth and St Andrews Bay Complex SPA) and piling could reduce the potential for recovery of the common tern despite their habituation to the day to day operations of the port. NS strongly recommended against piling works being conducted during the tern breeding season, (May to July). NS advised however if this is unavoidable, a qualified observer should be employed to monitor levels of disturbance at the colony and have the power to halt work if there is evidence of disturbance to breeding common terns. Additionally, NS advised that the piling shroud must be utilised at all times if piling is to be carried out during the tern breeding season and not just limited to the post breeding season.
- 8.6 In relation to deposit of dredged material at the Narrow Deep B deposit site, NS advised that the management measures for the Outer Firth of Forth and St Andrews Bay Complex SPA are pressures associated with capital dredging project should be reduced or limited. NS advised that the RIAA did not contain sufficient information with regards to how many trips to the deposit site there would be or how many deposits events there would be and it therefore could not advise whether there would be adverse effect on the site integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA. Upon review of the Additional Information however, NS confirmed it was content that the expected increased traffic is not likely to be significant and therefore advised there will be no significant disturbance of the qualifying species and no adverse effect on the site integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA.
- 8.7 With regard to disturbance during the operation phase of the Works, NS advised that vessel movements are unlikely to be significant. Concerns were initially raised by MSS on this point however it subsequently confirmed it was content that the effects would not be significant. NS advised that provided the mitigation identified was implemented any effects from disturbance from the Works would not have an adverse impact on the site integrity of the Firth of Forth SPA, the Forth Islands SPA, the Imperial Dock Lock, Leith SPA, or the Outer Firth of Forth and St Andrews Bay Complex SPA.

- 8.8 RSPB Scotland initially raised concerns with regard to the assessment of the operational impacts on bird species and sought further detail, noting the potential for the Works to lead to an increase in disturbance during the operation of the berth. In addition, MSS sought further detail on the potential impacts from lighting during both the construction and operation phases of the Works. Based on the Additional Information provided by the Applicant, MSS and RSPB Scotland were content there would be no significant difference in the level of activity from the existing baseline.

Habitat loss and change of use

- 8.9 The RIAA considered that any physical loss of area within the SPAs or adjacent to them as a result of the Works would be minimal and of low importance in terms of foraging and therefore would not have an adverse effect on the integrity of the Firth of Forth SPA, and the Forth Islands SPA, the Imperial Dock Lock, Leith SPA or the Outer Firth of Forth and St Andrews Bay Complex SPA.
- 8.10 With regard to change of use, the RIAA identified that common terns from the Imperial Dock Lock, Leith SPA colony regularly fly through the area where the new hardstanding area is proposed, during the breeding season. The RIAA identified that items to be stored in this area may be large and during loading onto vessels may be up to 90 m tall, well within the range of flight height of the terns. The change of use has the potential to deter the flight activity of the common terns and have a long term effect which overlaps with breeding seasons over an indefinite period. The terns are however habituated to the presence of tall structures such as gantry cranes and lighting columns within the port. The RIAA concluded that the common terns will be tolerant to the change of use and the physical changes to habitat arising resulting from this would not have an adverse effect on the integrity of the Imperial Dock Lock, Leith.
- 8.11 NS broadly agreed with the assessment and conclusions contained within the RIAA. With regards to deposit of dredged material at the Narrow Deep B deposit site however, NS advised that the management measures for the Outer Firth of Forth and St Andrews Bay Complex SPA are pressures associated with capital dredging project should be reduced or limited. NS advised however that with regard to loss of or damage to prey supporting habitat the Narrow Deep B deposit site is unlikely to host suitable prey species due to its continued use as a deposit site for maintenance dredging and consequent disturbance or addition of sediment. In addition, NS advised any loss of water quality from increased SSC due to the deposit activities would be

temporary. NS advised that the Works would not have an adverse impact on the site integrity of the Firth of Forth SPA, the Forth Islands SPA, the Imperial Dock Lock, Leith SPA, or the Outer Firth of Forth and St Andrews Bay Complex SPA due to habitat loss or change of use.

Water quality effects

- 8.12 The RIAA identified that significant increases in SSC resulting from dredging activities will not extend beyond the entrance to the Port and it will not spread extensively beyond the limits of the deposit site. This represents a very small area in comparison to the overall foraging habitats available to the qualifying interests of the SPAs.
- 8.13 In addition whilst the dredging activities will operate on a 24/7 basis they are scheduled to take place over a 4 month period. Any impact will therefore be short term and will overlap with no more than one breeding season. Once the dredging activities have been completed, the baseline SSC will be restored across the affected areas and there will be no long term effect on foraging capability.
- 8.14 NS agreed with the assessment and conclusions contained within the RIAA. With regards to the Outer Firth of Forth and St Andrews Bay Complex SPA, NS advised that any loss of water quality from increased SSC due to the deposit activities at the Narrow Deep B deposit site NS advised would be very temporary. NS advised that the Works would not have an adverse impact on the site integrity of the Firth of Forth SPA, the Forth Islands SPA, the Imperial Dock Lock, Leith SPA, or the Outer Firth of Forth and St Andrews Bay Complex SPA due to water quality effects.

MS-LOT conclusion on Firth of Forth SPA, the Forth Islands SPA, the Imperial Dock Lock, Leith SPA, or the Outer Firth of Forth and St Andrews Bay Complex SPA

- 8.15 MS-LOT have considered the advice provided by NS, RSPB Scotland and MSS and have concluded that subject to the application of the conditions detailed in section 4, the Works will not, in isolation, adversely affect the site integrity of the Firth of Forth SPA, the Forth Islands SPA, the Imperial Dock Lock, Leith SPA, or the Outer Firth of Forth and St Andrews Bay Complex SPA.

River Teith SAC- Diadromous fish

Underwater noise disturbance

- 8.16 The RIAA considered the results of modelling of underwater noise emanating both from continuous noise sources, such as dredging, and also impulsive noise such as piling. The modelling took account of soft start piling as per the JNCC Piling Protocol. Meaning that piling energy would be gradually ramped up from commencement over a period of at least 20 minutes, to allow for these mobile species to move away from the source. Further, due to the width of the estuary at the point of the Works, the avoidance of injurious noise levels would not cause individuals to deviate sufficiently from their migratory routes to prevent them reaching their destination. In addition, the RIAA noted that the duration of the piling works is likely to be between 5 to 5.5 months and therefore only one migration season of any of the qualifying species is likely to be affected.

Water quality changes

- 8.17 The RIAA considered the SSC modelling results and concludes that any sediment plume will be short-lived, and the fish will be able to avoid the potential impacts of increased SSC. In terms of potential 'barrier effect', the Applicant concludes that the location of the Works within an estuary which is 8 km wide at the point of the Works, means the finfish will avoid the area and be unimpeded in their migration.

With reference to any release of contaminants, that the RIAA noted that any contaminants would be bound to fine sediment particles and so would be restricted to the area of the sediment plume and therefore the same reasoning as above can be applied, that the proportion of the migration channel effected even at peak period would be proportionately small and as fish are avoiding the increased SSC they would not be impacted.

Habitat quality changes

- 8.18 The RIAA identified a very small area of habitat lost due to dredging at the berth pocket however, compared to the volume of subtidal habitat available in the area this represents a very small proportion of the total. Although this area may have been utilised by the species which are qualifying features of the River Teith SAC, the loss of it will not be of sufficient magnitude to lead to an adverse impact on the integrity of the site.

NS consultation response and MS-LOT conclusion on diadromous fish

- 8.19 NS agreed with the assessment and conclusions contained within the RIAA and in particular noted:

- soft start piling techniques will allow these mobile species to move away from underwater noise disturbance;
- due to the width of the Forth, underwater noise will not be a barrier to migration;
- water quality changes at the dredging and deposit sites will be localised and temporary; and
- the Firth of Forth is sufficiently wide here, that there is ample space for migrating lamprey species and salmon to pass by, avoiding both noise disturbance and any water quality changes.

8.20 On this basis NS advised that the Works would not have an adverse impact on the site integrity of the River Teith SAC.

8.21 MSS advice was largely in agreement with the RIAA NS consultation response. MSS noted however that for salmon soft start procedures are unlikely to provide mitigation in relation to piling, with evidence showing salmon do not respond to the stimulus. MSS also highlighted the omission of modelling or sample data of sediment and oxygen levels in the water column during dredge deposits noting reduced oxygen levels can result in fish mortalities. MSS recommended that a condition be included in any dredging licence which requires the Applicant to report the sighting of dead, distressed or injured fish which could be connected with the activities of the Works, to MS-LOT immediately. MS-LOT have considered this advice and concluded that this condition is not required to avoid adverse impact on site integrity.

8.22 MS-LOT have considered the advice provided by NS and MSS and have concluded that based on the localised and temporary effects of the Works and adherence to the JNCC Piling Protocol as conditioned in section 4, the Works will not, in isolation, adversely affect the site integrity of the River Teith SAC.

Isle of May SAC, Firth of Tay and Eden Estuary SAC, Berwickshire and North Northumberland SAC, Moray Firth SAC - Marine mammals

Underwater Noise

8.23 During the construction phase of the Works there is the potential for the grey seal qualifying interest of the Isle of May SAC and the Berwickshire and North Northumberland Coast SAC; the harbour seal qualifying interest of the Firth of Tay and Eden Estuary SAC; and the bottlenose dolphin qualifying interest of the Moray Firth SAC, all to be impacted from underwater noise from impact piling, vibro-piling and dredging. The RIAA identifies that the potential impacts

from these activities are permanent auditory threshold shift (“PTS”), temporary threshold shift (“TTS”), and disturbance.

8.24 The Applicant conducted underwater noise modelling to predict the levels of noise that will result from the Works and the impact that may have on qualifying interests of the SACs. NS noted that the PTS impact ranges for impact piling, vibro-piling and dredging are all within 100 m of the Works and that TTS, and therefore disturbance, impact ranges will be much higher than this.

8.25 To reduce the impact from both types of piling the RIAA identified the following mitigation:

- The establishment of a mitigation zone of 200 m from the piling location. The JNCC guidance recommends a mitigation zone of 500 m, however, due to the small impact ranges predicted for the Works (of less than 100 m for PTS), a reduced mitigation zone of 200 m will be used.
- Only commence piling operations during the hours of daylight and good visibility (and within the 12 hour construction window).
- Pre-piling search for marine mammals of mitigation zone by Marine Mammal Observer(s).
- Delay if marine mammals detected within the mitigation zone.
- Soft-start and ramp-up of piling for a period of not less than 20 minutes, as per JNCC ([‘ Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise \(jncc.gov.uk\)’](https://www.jncc.gov.uk/publications/statutory-nature-conservation-agency-protocol-for-minimising-the-risk-of-injury-to-marine-mammals-from-piling-noise))
- Pre-construction activity search and soft-start procedure should be repeated before piling recommences, if piling operations pause for a period of greater than 10 minutes.
- All mitigation procedures, soft-start and ramp-up, and reporting requirements, are as per the JNCC guidelines, with the exception of the reduced mitigation zone.

8.26 In respect of noise emitted during dredging activities, the RIAA considered that individuals would have to remain within 100 m of the source of noise for 12 hours in order to be exposed to levels of sound sufficient to induce PTS or TTS auditory injury. Based on modelling the Applicant concluded that although there is potential for disturbance as a result of the dredging work it is anticipated that the effects will be localised and short-lived with mammals being able to return to the area shortly after cessation of activity.

8.27 NS advised it was generally content with the assessment in the RIAA however highlighted some uncertainties within the noise modelling provided in the

RIAA. Based on these uncertainties and that piling is likely to take 5.5 months, NS advised that the mitigation zone should remain as per the JNCC minimum recommendation, namely 500 m. This recommendation was supported by the MSS advice and was reiterated by both NS and MSS upon review of the Additional Information.

- 8.28 MSS agreed with the NS consultation response regarding marine mammals however noted the proximity of the dredge deposit site to Inchkeith island, a designated seal haul-out site. MSS therefore recommended that vessel operators follow Scottish Marine Wildlife Watching Code (“SMWWC”) and ensure there are no marine mammals near the barge prior to depositing dredge material.
- 8.29 MS-LOT are in agreement with this and adherence to the SMWWC is included as a condition in section 4.

Water Quality and Prey Availability Changes

The RIAA considered that in respect of changes in water quality, this would occur mostly during dredging activities and based on modelling, the effects would be very localised and within an area that is already routinely dredged. In respect of prey availability, the RIAA considered that the displacement effect would likely be small and localised. In addition, grey seals, harbour seals and bottlenose dolphins are generalist feeders and are not therefore reliant on a particular species of prey. NS supported the assessment and conclusions in the RIAA.

NS consultation response and MS-LOT conclusion on marine mammals

- 8.30 NS advised that there will be no adverse effect on the bottlenose dolphin, harbour seal or grey seal, as qualifying interests of the Moray Firth SAC, Firth of Tay and Eden Estuary SAC, Isle of May SAC and Berwickshire and North Northumberland Coast SAC respectively, based on the location of the Works, the distance from the seal SACs and providing that the standard JNCC Piling Protocol is adhered to, including the use of a 500 m mitigation zone.
- 8.31 MS-LOT have considered the advice provided by NS and MSS and have concluded that provided the conditions detailed in section 4 are adhered to, the Works will not, in isolation, adversely affect the site integrity of the Moray Firth SAC, Firth of Tay and Eden Estuary SAC, Isle of May SAC and Berwickshire and North Northumberland Coast SAC.

9 In combination assessment

- 9.1 MS-LOT has carried out an in combination assessment to ascertain whether the Applicant's proposal will have a cumulative effect with other plans or projects which, in combination, would have the potential to affect the qualifying interests of the Firth of Forth SPA, Imperial Dock Lock, Leith SPA, Forth Islands SPA, Outer Firth of Forth and St Andrews Bay Complex SPA, River Teith SAC, Isle of May SAC, Firth of Tay and Eden Estuary SAC, Berwickshire and North Northumberland SAC or Moray Firth 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 qualifying interests of the Firth of Forth SPA, Imperial Dock Lock, Leith SPA, Forth Islands SPA, Outer Firth of Forth and St Andrews Bay Complex SPA, River Teith SAC, Isle of May SAC, Firth of Tay and Eden Estuary SAC, Berwickshire and North Northumberland SAC or Moray Firth SAC.
- 9.3 **Sea Mammal Research Unit, University of St. Andrews - Geophysical Survey**
- 9.3.1 Sea Mammal Research Unit are undertaking geophysical surveys in the Firth of Forth and Eden Estuary area to inform the design of a seawater supply system. The proposal includes the use of one small vessel with a parametric Sub Bottom Profiler ("SBP") which has a source level of 200 to 245 dB re 1 μ Pa, with a source frequency of 2 to 115 kilohertz ("kHz"). Sea Mammal Research Unit will survey an area of 1.5 km squared along the proposed seawater pipe route out to a maximum of 1.5 km from shore, with water depths in the area less than 10 m. The surveys are expected to take a maximum of 3 days with up to 6 hours of surveying per day.
- 9.4 **Aberdeen Bay Offshore Wind Farm**
- 9.4.1 Installation and operation of a European Offshore Wind Deployment Centre consisting of 11 turbines, inter-array and export cables located 2 to 4.5 km 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.
- 9.5 **Ardersier Port Development**
- 9.5.1 The Ardersier Port Development is located at the former McDermott Fabrication Yard, which lies approximately 7.5 km to the west of Nairn, 3 km

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. The works involve port entrance/inner channel dredging, quay wall construction/realignment and quayside (berthing) dredging and are scheduled to start in 2019 taking up to 5 years to complete. A dredge of 2,300,000 m³ of sand will be required to deepen the port entrance to -6.5 m chart datum. A cutter suction dredger will be used. An area of the inner channel will be dredged to -3 m chart datum by either plough dredging, backhoe dredger or land based equipment. Once dredging has been completed, the new 464 m sheet pile wall will be constructed alongside the existing quayside.

9.6 BEAR Scotland - Bridge Maintenance Works - Kessock Bridge, Inverness-shire

9.6.1 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.

9.7 Beatrice Offshore Wind Farm

9.7.1 Installation and operation of the Beatrice Offshore Windfarm, which is located in the outer Moray Firth 13.5 km from the Caithness coast. The total area of the development is 131.5 km². 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. Further information regarding the project can be found [here](#).

9.8 Beatrice Offshore Windfarm - Geophysical surveys, benthic surveys and visual inspections

9.8.1 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.

9.9 Cromarty Community Development Trust - Alter and Improve a Slipway

9.9.1 The works are to replace the concrete on the slipway. If funding allows, the slipway may also be extended by 20 m to a total length of 60 m while the width will be extended from 5.5 m to 12 m. The extension will either be built using blockwork or piles backfilled with concrete and rock fill. Blockwork would be laid on top of concrete mats and any piling would be carried out using vibro-piling.

9.10 Cromarty Community Development Trust - Alter and Improve a Slipway – Nigg

9.10.1 The works are to replace the concrete on the slipway. If funding allows, the slipway may also be extended by 20 m to a total length of 60 m while the width will be extended by 4 m to 12 m. The extension will either be built using blockwork or piles backfilled with concrete and rock fill. Blockwork would be laid on top of concrete mats and any piling would be carried out using vibro-piling.

9.11 Dalgety Bay Sailing Club - Moorings - Dalgety Bay

9.11.1 Dalgety Bay Sailing Club are increasing the number of moorings in Dalgety Bay from 50 mooring to 80 moorings for private pleasure boating activities. The moorings will be in use from April to September each year.

9.12 Defence Infrastructure Organisation - Remediation and construction works - Dalgety Bay, Fife

9.12.1 The physical works required to address the radium contamination primarily comprise of a robust geotextile membrane of approximately 13,000 m² held in place and protected by a new revetment consisting of 9,500 m³ of rock armour. The existing Dalgety Bay Sailing Club slipway and jetty structures will also be removed and replaced with a single slipway and jetty structure. The work will involve excavation of the foreshore and will include the removal of 7,500 m³ of beach material to provide foundations for these structures and also to remove contamination at specific areas across the bay. The project will take place over 2 years with works only permitted between April and September.

9.13 Dounreay Tri Floating Wind Demonstration Project

9.13.1 The Development will consist of a demonstration floating offshore windfarm called Dounreay Tri at least 6 km off Dounreay, Caithness. The main offshore components will include two offshore wind turbines with an installed capacity of 8 to 12 MW, a floating foundation, mooring clump weight, mooring chain and/or steel lines, drag embedment anchors, a 33 kV export cable and scour protection for the anchors and the export cable where necessary. Further information regarding the project can be found here. 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.

9.14 Fife Coast and Countryside Trust - Sand Extraction - West Sands, St Andrews

9.14.1 Fife Coast and Countryside Trust are proposing to remove sand from West Sands beach in St Andrews to bund blowouts and to create small new dunes. Fife Coast and Countryside Trust proposed to extract 2,600 tonnes of sand from an area of 0.126 km² at a depth between 150 mm and 200 mm from a donor site located below MHWS. The sand would then be deposited within sand dunes above MHWS, a maximum of about 500 m from the donor site. These works have been carried out over many years before and are part of continuing dune restoration efforts. The original proposal was to be carried out between September and March for a duration of three years.

9.15 Forthwind

9.15.1 The Development consists of two, two-bladed lattice structure wind turbine generators ("WTGs"), associated infrastructure and electricity export cables approximately 1.5 km off the northern shore of the Firth of Forth at Methil, Fife. The WTGs will be located in waters 10 to 20 m deep, have a hub height of 109 to 121 m, a maximum tip height of 198.5 m and a generating capacity per turbine of up to 9 megawatts ("MW"). The maximum rotor diameter of the turbines is 155 m. Each turbine will have a substructure of steel jackets with pin piles. The turbines will have three main elements i.e. rotor, nacelle and tower. The project footprint for each turbine (includes turbine foundations, trenching for export cables and jack up barge/vessel footprint) will be 37,400 m². There will be an export cable for each turbine that will connect to the substation and control building at Fife Energy Park. Construction will take place over a 3 to 6 month period (with installation of the turbines and export cable expected to take 8 weeks) followed by testing and commissioning before becoming operational. Further information regarding the project can be found

[here](#). Construction works have not yet commenced on site and the developer is currently applying to vary the permitted works.

9.16 Geophysical Surveys - Inch Cape Offshore Wind Farm

9.16.1 Geophysical surveys will be conducted along the Inch Cape export cable corridor and offshore windfarm site and geotechnical surveys will be conducted at 80 locations within the windfarm site. The geophysical survey activity will last up to 10 days within the development area and 30 days along the offshore cable corridor. The geotechnical survey work is expected to last up to 24 weeks.

9.17 Global Energy Group - Construction/Dredging - Nigg East Quay

9.17.1 The project is to construction of an expanded lay down area with a 0.88 ha perimeter sheet piled wall to retain locally dredged sediment. 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 2 m high bund at the eastern and northern extents. The associated capital dredge will result in 165,000 m³ of sediment being removed to create the deep sea berth 12 m below CD alongside the quay. Up to 30,000 m³ 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.

9.18 Global Energy Nigg Ltd - Removal of Two Dolphin Moorings - Nigg Energy Park Cromarty Firth

9.18.1 Global Energy Nigg Ltd propose to remove two mooring dolphins proximal to the south quayside at Nigg Energy Park, Cromarty Firth. The mooring dolphins will be dismantled and removed to allow unobstructed and safe passage to and from the south quayside. The dolphins comprise two separate steel mooring frames each supported on 4 no. steel tubular piles of 42 inch diameter. The mooring frames are approx. 7.5 m² and positioned some 65-70 m apart. The piles penetrate the seabed to a depth of about 40 feet, which equates to -22 m CD.

9.19 Hywind Scotland Pilot Park

9.19.1 Five 6 MW turbines have been installed approximately 25 km off the coast at Peterhead, North East Scotland, just outside the 12 nautical mile territorial water limit. The project will be expected to produce up to 135 GWh per year of electricity. The turbines are positioned between 800 to 1,600 m 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 600 to 1,200 m out from each turbine. The turbines are connected by inter-array cables which may require stabilisation in some locations. The export cable, which transports electricity from the Pilot Park to shore at Peterhead, is buried where seabed conditions allow. Where this is not possible cable protection in the form of concrete mattresses and rock is required. Both the inter-array and export cables have 33 kV transfer voltage. The export cable comes ashore at Peterhead and connects to the local distribution network at SSE Peterhead Grange substation. The project has finished construction and moved into the operational phase. Further information regarding the project can be found [here](#).

9.20 Inch Cape Offshore Transmission Infrastructure

9.20.1 Inch Cape Offshore Limited development (“ICOL”), is approximately 15 km to the east off the Angus coastline. Further information regarding the development can be found [here](#). It was collectively assessed as part of the Forth and Tay Windfarm Developments which also includes Neart na Gaoithe and Seagreen Alpha and Bravo. These projects all received marine licences and consents under section 36 of the Electricity Act 1989 in October 2014. 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. ICOL has now received a new consent and licences, details of which are included in sections XX. Although the project now has permission for two different proposals, only one of these will be built out.

9.21 Inch Cape Offshore Wind Farm (revised design)

9.21.1 Construction and operation of a wind farm 15-22 km east of the Angus coastline. The development will consist of a maximum of 72 wind turbines. 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](#).

9.22 Inch Cape Transmission Infrastructure (revised design)

9.22.1 Construction of offshore transmission infrastructure associated with the Inch Cape Offshore Wind Farm, 15-22 km east of the Angus coastline. The development will consist of 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](#).

9.23 Installation of new long sea outfall, Spey Bay

9.23.1 Construction of a long sea outfall of approximately 1.9 km in length to discharge effluent from a distillery into the Moray Firth. The pipe is made of High Density Polyethylene and will be fitted with 2 discharge diffusers, one at the midline and one at the end of the outfall. This will be protected with approximately 300 tonnes of cobbles and 1500 tonnes of boulders. Land based trenching will be carried out in the nearshore intertidal section and the subtidal section will be trenched using marine plant, likely a back-hoe dredger. Material removed during trenching will be stockpiled adjacent to the trench to be used as backfill once the pipe and diffusers are installed. Anti-scour rock mattresses will be used to protect the diffusers. A temporary mooring buoy will be used to attach to the pipes in a storage area until they are required during the construction process. This buoy will be removed at the end of the construction process.

9.24 Kincardine Offshore Wind Farm

9.24.1 Kincardine Offshore Windfarm ("KOWL") is a demonstrator floating offshore windfarm development that is located to the south east of Aberdeen, approximately eight miles from the Scottish coastline in approximately 60 to 80 m of water. The development is considered a commercial demonstrator site, which utilises floating semi-submersible technology to install six turbines including a temporary data gathering platform of 2 MW. The maximum generating capacity of all six turbines will not exceed 50 MW. The proposal also includes inter-array cabling to the connection point at the onshore Redmoss substation, Altens, Aberdeen. The 2 MW turbine was deployed in September 2018, while the other five turbines (9.5 MW each) will be deployed after September 2020. Further information regarding the project can be found [here](#).

9.25 Levenmouth Demonstration Turbine

9.25.1 The project involves the construction, operation and decommissioning of a site for the testing of new designs of offshore wind turbines with a capacity of up

to 7 MW at the Fife Energy Park, Methil. There is potential for more than one turbine model to be tested at the site. Once one turbine has been tested it will be removed from the site and replaced with a new turbine which falls within the same design parameters (maximum hub height of 110 m, rotor diameter of 172 m, and maximum height to turbine tip from Mean Sea Level of 196 m). Only one turbine will ever be installed at any one time. The base will remain in place throughout the Development. The consent for this development expires in 2029. In addition to the wind turbine, the consent also includes a personnel bridge connection between the Fife Energy Park (“FEP”) and turbine tower, construction of an onshore crane pad on the FEP and construction of an onshore Control compound. Further information regarding this project can be found [here](#). One turbine has been installed and is currently operational.

9.26 Meygen Tidal Turbines

9.26.1 Construction and operation of a tidal array in the Inner Sound of the Pentland Firth. Phase 1a of the project is complete with four 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 four 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. Further information regarding the project can be found [here](#).

9.27 Moray East Offshore Wind Farm

9.27.1 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 22 km from the Caithness coastline, in water depths of 38 to 57 m). The operational lifespan of the wind farms is expected to be 25 years. 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. Construction work is currently ongoing with piling works completed and all construction work is due to be completed by April 2022. Further information regarding the Moray Offshore East Development can be found [here](#).

9.28 Moray East Transmission Infrastructure

9.28.1 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 for the OSPs; Inter-platform cabling within the 3 consented wind farms; and up to 4 triplecore submarine HVAC export cables between the OSPs and the shore. Piling works have been completed and construction is scheduled to be completed by April 2022.

9.29 Moray West Offshore Wind Farm

9.29.1 The wind farm is located 22.5 km southeast off the Caithness coastline. The operational lifespan of the project is expected to be 25 years. The project covers a total area of approximately 225 km² and will be comprised of no more than 85 wind turbines with a maximum generating capacity of around 850 MW, along with associated offshore transmission infrastructure. Further details of the proposed works can be found [here](#).

9.30 Neart na Gaoithe Offshore Wind Farm

9.30.1 Neart na Gaoithe Offshore Windfarm Limited development ("NNGOWL"), is approximately 15.5 km to the east of Fife Ness in the outer Firth of Forth. Further information regarding the development can be found [here](#). It was collectively assessed as part of the Forth and Tay Windfarm Developments which also includes Inch Cape and Seagreen Alpha and Bravo. These projects all received marine licences and consents under section 36 of the Electricity Act 1989 in October 2014. 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 has now received a new consent and licences, details of which are included in section 9.31. Although this project now has permission for two different proposals, only one of these will be built out.

9.31 Neart na Gaoithe Offshore Wind Farm (revised design)

9.31.1 Construction and operation of a wind farm 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. 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](#).

9.32 Peterhead Port Authority - Revetment Works, Alexandra Parade, Peterhead

9.32.1 The works are part of a larger project to strengthen the existing, circa 330 m long, sea defence revetment at Alexandra Parade, Peterhead. The project will be completed in two phases between April 2020 and December 2022. 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. Re-profiling of the existing rock armour revetment will be undertaken by removing existing concrete elements and rock armour. Remaining sections of the concrete pitched revetment will then be broken up to improve porosity using an excavator mounted rock breaker. A rock embankment will be constructed using 1-3 tonne rockfill 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 tonnes of rock armour to create a toe mound. Xbloc units will be placed on the rock embankment slope, extending from the toe structure to the crest of the revetment.

9.33 Royal National Lifeboat Institution ("RNLI") - Low Impact Maintenance to Construction Projects - Kyle of Lochalsh/Kinghorn and North Berwick Lifeboat Station

9.33.1 This project covers routine, ongoing maintenance works for a 6 year period at a number of sites around Scotland that are owned and managed by the RNLI. The activities covered will be maintenance and repair including like for like replacement of elements of the structure including re-enforcing or repairing the slipway toe up to a maximum additional area of 6 m². In addition, cleaning of the slipway structure for safety purposes may be carried out. These works do not include any piling. Although the licence covers a 6 year period, the proposed works will only be carried out infrequently and work programmes will generally last one to two weeks and some programmes may be completed in a single day.

9.34 Scottish Hydro Electric Power Distribution ("SHEPD") - Geophysical Surveys

9.34.1 SHEPD are proposing to undertake geophysical surveys in the Moray Firth Marine Region and the Forth and Tay Marine Region along a number of cable routes. The proposal includes the use of Ultra-Short Baseline ("USBL") and Sub-Bottom Profiler ("SBP"). The proposal is due to commence once the licence is issued and is expected to be completed by 31 March 2023. Vessel presence and survey activities on all cables across the Moray Firth Marine

Region and the Forth and Tay Marine Region are expected to take 7.22 days in total, with an additional 12 hours allowed for equipment calibrations for each survey mobilisation.

9.35 Seagreen Wind Energy Limited - Geophysical Surveys - Seagreen 1A Cable Route

9.35.1 Seagreen proposes to install a further export cable to enable the subsequent build out of the Seagreen Alpha and Bravo Offshore Wind Farms. This export cable is to be known as Seagreen 1A and will make landfall at Cockenzie in the Firth of Forth. Seagreen propose to undertake geophysical surveys of the planned Seagreen 1A cable route. This will include the use of multi-beam echo sounder, side-scan sonar, sub-bottom profiler, magnetometer, sparker boomer and ultra-short base line. The total survey area covers approximately 548 square kilometres.

9.36 Seagreen Wind Energy Limited - Unexploded Ordnance Clearance (“UXO”)

9.36.1 Seagreen proposes to remove several UXO at 20 spare WTG locations across the Seagreen Alpha and Bravo Offshore Wind Farm area which is located in the Firth of Forth. Seagreen are currently undertaking geophysical survey work to confirm and identify UXO and debris within the area. As this survey has not yet been completed, Seagreen has applied for a marine licence and a European protected species licence based on a worst case assumption that the clearance of up to five UXO will each require to be detonated. Seagreen have stated that the most powerful UXO which may be present and therefore require detonation would be 930 kg Net Explosive Quantity (“NEQ”); however, that based on desk-based studies, that it is unlikely or very unlikely that individual items of UXO will exceed 300 kg NEQ. Detonation of the UXO generates a loud underwater sound which poses a risk to marine wildlife in the vicinity. UXO clearance is expected to occur over an estimated maximum of 5 days (1 UXO per day) with debris removal also taking place throughout this period.

9.37 Temporary bridge installation, River Leven, Fife

9.37.1 Fife Council propose the construction of a temporary bridge across the River Leven, Fife for the duration of separate works to repair the adjacent River Leven railway bridge so as to ease the flow of traffic. The construction works will consist in the installation of the temporary bridge over the river Leven. The bridge will be constructed on land and pushed over the watercourse. No construction will take place within the watercourse.

9.38 Transport Scotland- Bridge Maintenance

- 9.38.1 The works are for a five year marine licence to maintain the Forth Road Bridge. The individual work packages will vary in duration and be spread throughout the licence period. The maintenance works will predominantly be carried out at bridge deck level, but two of the work packages (installing a new suspended span underdeck access gantry and repairing the cathodic protection systems) will require barges and boats. In addition, a safety boat is required to be available whenever activities requiring work outside of the carriageway and walkways are programmed.

9.39 Wemyss 1952 Trust - Rebuilding Sea Wall - West Wemyss, Fife

Rebuild an approximately 260 m long section of sea wall at Chapel Gardens, West Wemyss, Fife. This will be carried out in 2 sections. The first section will be 120 m long heading east from the Chapel Gardens West Tower to just short of the East Tower where the existing sea wall 'cuts in'. The second section will be 140 m long and runs east from the 'cut in' to the limit of the seawall. The duration of the project is expected to be 1 year and the total area of the proposed works is estimated to be 930 m². The first section requires displaced rock armour to be removed and replaced. The second section includes repair of a breeched section of the sea wall just after the 'cut in' using similar rubble to that initially used in building the wall. This area is expected to be approximately 12 m². Shuttering will be installed to allow a concrete backing of 0.7 m to be applied to this rebuilt area. Any remaining void to the rear of the wall shall be filled with infill. Concrete shall be placed to form a 0.2 m thick top surface to the landward side of the wall in section 2. The total area of this top surface shall not exceed 40 m². Any minor holes in the lower 2 m of section 2 of the sea wall will be repaired.

9.40 Dredging Operations

- 9.40.1 There are a number of dredging operations which were identified as having a likely significant effect on the Moray Firth SAC, Firth of Forth SPA, Imperial Dock Lock, Leith SPA or Outer Firth of Forth and St Andrews Bay SPA designated sites which could also be affected by the Forth Ports proposal. The table below summarises these projects.

Table 4: Dredging operations identified as having a likely significant effect on Moray Firth SAC, Firth of Forth SPA, Imperial Dock Lock, Leith SPA and the Outer Firth of Forth and St Andrews Bay Complex SPA designated site also affected by the Forth Ports proposal

Location of Dredge	Licensee	Amount of Dredge Material	Dredge Spoil Deposit Area	Dates of Licence	Designated Site
Aberdeen Harbour	Aberdeen Harbour Board	295,000 wet tonnes	Aberdeen deposit area CR110	13/03/2022-12/03/2023	Moray Firth SAC
Arbroath Harbour	Angus Council	20640 wet tonnes per year	Arbroath deposit site FO020	13/07/2022-12/07/2024	Moray Firth SAC
Dysart Harbour	Dysart Sailing Club	1200 wet tonnes per year	Intertidal shore west of Dysart Harbour	01/06/2022-31/05/2025	Firth of Forth SPA
Port of Kirkcaldy	Forth Ports Ltd	63000 wet tonnes per year	Kirkcaldy deposit site FO045	22/12/2021-21/12/2024	Firth of Forth SPA, Moray Firth SAC, Outer Firth of Forth and St Andrews Complex SPA
Leith Docks and approaches, Leith	Forth Ports Ltd	130000 wet tonnes per year	Narrow Deep B deposit site FO038	03/12/2021-02/12/2024	Firth of Forth SPA, Moray Firth SAC, Outer Firth of Forth and St Andrews

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					Bay Complex SPA, Imperial Dock Lock SPA
Port of Rosyth	Forth Ports Ltd	520,000 wet tonnes per year	Oxcars Main (FO041), Oxcars Ext A (FO042) and Oxcars Ext B (FO043) deposit sites	11/03/2021-10/03/2024	Firth of Forth SPA, Outer Firth of Forth and St Andrews Bay Complex SPA.
Leith and Grangemouth	Forth Ports Ltd	1060 wet tonnes	Dispersal by tidal movement	17/12/2020-16/12/2023	Firth of Forth SPA, Imperial Dock Lock Leith SPA
Buckie Harbour	Moray Council	16665 wet tonnes per year	Buckie deposit site CR040	16/03/2021-15/03/2024	Moray Firth SAC
Burghead Harbour	Moray Council	30800 wet tonnes per year	Burghead deposit site CR030	16/03/2021-15/03/2024	Moray Firth SAC
Cullen Harbour	Moray Council	10000 wet tonnes	Buckie deposit site CR040	02/07/2020-02/06/2023	Moray Firth SAC
Findochty Harbour	Moray Council	10000 wet tonnes	Buckie CR040	07/02/2020-06/02/2023	Moray Firth SAC

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Hopeman Harbour	Moray Council	10000 wet tonnes	Burghead deposit site CR030	07/02/2020-06/02/2023	Moray Firth SAC
Portknockie Harbour	Moray Council	10000 wet tonnes	Buckie deposit site CR040	03/02/2020-02/03/2023	Moray Firth SAC
River ness channel, South Citadel Quay, Central Longman and River Ness approaches	Port of Inverness	9750 wet tonnes	Cromarty deposit site CR027	01/07/2022-03/06/2025	Moray Firth SAC
Boddam Harbour	SSE	8000 wet tonnes per year	Buchan Ness deposit site CR080	01/10/2021-30/09/2024	Moray Firth SAC
Montrose Harbour	Montrose Port Authority	246000 wet tonnes	Lunan Bay FO010 and Montrose Trial deposit site	24/09/2022-23/09/2023	Moray Firth SAC

9.41 Assessment of in combination effects on the Firth of Forth SPA designated site

9.41.1 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 Firth of Forth SPA.

- Sea Mammal Research Unit, University of St. Andrews - Geophysical Survey (Section 9.3)
- Dalgety Bay Sailing Club - Moorings - Dalgety Bay (Section 9.11)
- Defence Infrastructure Organisation - Remediation and construction works - Dalgety Bay, Fife (Section 9.12)

- Dounreay Tri Floating Wind Demonstration Project (Section 9.13)
- Forthwind (Section 9.14)
- Levenmouth Demonstration Turbine (Section 9.25)
- Royal National Lifeboat Institution ("RNLI") - Low Impact Maintenance to Construction Projects - Kyle of Lochalsh/Kinghorn and North Berwick Lifeboat Station (Section 9.33)
- Temporary bridge installation, River Leven, Fife (Section 9.37)
- Transport Scotland- Bridge Maintenance- Forth Road Bridge (Section 9.38)
- Wemyss 1952 Trust - Rebuilding Sea Wall - West Wemyss, Fife (Section 9.39)
- Dredging operations (Section 9.40)

9.41.2 There is the potential for in combination effects with all the projects, however, providing all the projects are undertaken in line with the conditions in its respective AA's, MS-LOT concludes that any in combination effects will not adversely affect the site integrity of the Firth of Forth SPA.

9.42 Assessment of in combination effects on the Imperial Dock Lock, Leith SPA designated site

9.42.1 The following projects currently have an active marine licence and associated AA which identified a likely significant effect on the qualifying interests of the Imperial Dock Lock, Leith SPA.

- Dredging operations (9.40)

9.42.2 There is potential for in combination effect with all the projects however provided they are undertaken in line with the conditions in its respective AA's, MS-LOT concludes that any in combination effects will not adversely affect the site integrity of the Imperial Dock Lock, Leith SPA.

9.43 Assessment of in combination effects on the Forth Islands SPA designated site

9.43.1 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 Forth Islands SPA.

- Defence Infrastructure Organisation - Remediation and construction works - Dalgety Bay, Fife (Section 9.12)

- Dounreay Tri Floating Wind Demonstration Project (Section 9.13)
- Forthwind (Section 9.15)
- Hywind Scotland Pilot Park (Section 9.19)
- Inch Cape Offshore Transmission Infrastructure (Section 9.20)
- Inch Cape Offshore Wind Farm (revised design) (Section 9.21)
- Inch Cape Transmission Infrastructure (revised design) (Section 9.22)
- Kincardine Offshore Wind Farm (Section 9.24)
- Neart na Gaoithe Offshore Wind Farm (Section 9.30)
- Neart na Gaoithe Offshore Wind Farm (revised design) (Section 9.31)
- Transport Scotland- Bridge Maintenance (Section 9.38)

9.43.2 There will be no in combination effects with the Hywind Scotland Pilot Park as this project is now in the operational phase.

9.43.3 There is potential for in combination effect with all the remaining projects however provided they are undertaken in line with the conditions in its respective AA's, MS-LOT concludes that any in combination effects will not adversely affect the site integrity of the Forth Islands SPA.

9.44 Assessment of in combination effects on the Outer Firth of Forth and St Andrews Bay Complex SPA designated site

9.44.1 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 Outer Firth of Forth and St Andrews Bay Complex SPA.

- Sea Mammal Research Unit, University of St. Andrews - Geophysical Survey (Section 9.3)
- Dalgety Bay Sailing Club - Moorings - Dalgety Bay (Section 9.11)
- Defence Infrastructure Organisation - Remediation and construction works - Dalgety Bay, Fife (Section 9.12)
- Dounreay Tri Floating Wind Demonstration Project (Section 9.13)
- Forthwind (Section 9.15)
- Inch Cape Offshore Wind Farm (revised design) (Section 9.21)
- Inch Cape Transmission Infrastructure (revised design) (Section 9.22)
- Kincardine Offshore Wind Farm (Section 9.24)
- Levenmouth Demonstration Turbine (Section 9.25)
- Neart na Gaoithe Offshore Wind Farm (revised design) (Section 9.31)
- Scottish Hydro Electric Power Distribution ("SHEPD") - Geophysical Surveys (Section 9.34)
- Dredging operations (Section 9.40)

9.44.2 There is potential for in combination effect with all the projects however provided they are undertaken in line with the conditions in its respective AA's, MS-LOT concludes that any in combination effects will not adversely affect the site integrity of the Outer Firth of Forth and St Andrews Bay Complex SPA.

9.45 Assessment of in combination effects on the River Teith SAC designated site

9.45.1 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 Teith SAC.

- Inch Cape Offshore Transmission Infrastructure (Section 9.20)
- Meygen Tidal Turbines (Section 9.26)
- Neart na Gaoithe Offshore Wind Farm (Section 9.30)

9.45.2 There is potential for in combination effect with the above projects however provided they are undertaken in line with the conditions in its respective AA's, MS-LOT concludes that any in combination effects will not adversely affect the site integrity of the River Teith SAC.

9.46 Assessment of in combination effects on the Isle of May SAC designated site

9.46.1 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 Isle of May SAC.

- Sea Mammal Research Unit, University of St. Andrews - Geophysical Survey (Section 9.3)
- Aberdeen Bay Offshore Wind Farm (Section 9.4)
- Forthwind- (Section 9.15)
- Inch Cape Offshore Transmission Infrastructure (Section 9.20)
- Inch Cape Offshore Wind Farm (revised design) (Section 9.21)
- Inch Cape Transmission Infrastructure (revised design) (Section 9.22)
- Neart na Gaoithe Offshore Wind Farm (Section 9.30)
- Neart na Gaoithe Offshore Wind Farm (revised design) (Section 9.31)

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- Seagreen Wind Energy Limited - Geophysical Surveys - Seagreen 1A Cable Route (Section 9.35)

9.46.2 There will be no in combination effects with the Aberdeen Bay Offshore Windfarm as this project is now in the operational phase.

9.46.3 There is potential for in combination effect with the above projects however provided they are undertaken in line with the conditions in its respective AA's, MS-LOT concludes that any in combination effects will not adversely affect the site integrity of the Isle of May SAC.

9.47 Assessment of in combination effects on the Firth of Tay and Eden Estuary SAC designated site

9.47.1 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 Firth of Tay and Eden Estuary SAC.

- Sea Mammal Research Unit, University of St. Andrews - Geophysical Survey (Section 9.3)
- Fife Coast and Countryside Trust - Sand Extraction - West Sands, St Andrews (Section 9.15)
- Forthwind (Section 9.16)
- Inch Cape Offshore Transmission Infrastructure (Section 9.21)
- Inch Cape Offshore Wind Farm (revised design) (Section 9.22)
- Inch Cape Transmission Infrastructure (revised design) (Section 9.23)
- Neart na Gaoithe Offshore Wind Farm (Section 9.31)
- Neart na Gaoithe Offshore Wind Farm (revised design) (Section 9.32)
- Scottish Hydro Electric Power Distribution ("SHEPD") - Geophysical Surveys (Section 9.35)
- Seagreen Wind Energy Limited - Geophysical Surveys - Seagreen 1A Cable Route (Section 9.36)
- Seagreen Wind Energy Limited - Unexploded Ordnance Clearance - Firth of Forth (Section 9.37)

9.47.2 It is unlikely that there will be any temporal overlap between the Forth Ports Ltd proposal and the Fife Coast and Countryside Project, as such there will be no in combination effect with this project.

9.47.3 There is potential for in combination effect with the above projects however provided they are undertaken in line with the conditions in its respective AA's,

MS-LOT concludes that any in combination effects will not adversely affect the site integrity of the Firth of Tay and Eden Estuary SAC.

9.48 Assessment of in combination effects on the Berwickshire and North Northumberland Coast SAC designated site

9.48.1 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 Berwickshire and North Northumberland Coast SAC.

- Sea Mammal Research Unit, University of St. Andrews - Geophysical Survey (Section 9.3)
- Aberdeen Bay Offshore Wind Farm (Section 9.5)
- Inch Cape Offshore Transmission Infrastructure (Section 9.21)
- Inch Cape Offshore Wind Farm (revised design) (Section 9.22)
- Inch Cape Transmission Infrastructure (revised design) (Section 9.23)
- Neart na Gaoithe Offshore Wind Farm (Section 9.31)
- Neart na Gaoithe Offshore Wind Farm (revised design) (Section 9.32)

9.48.2 There will be no in combination effects with the Aberdeen Bay Offshore Windfarm as this project is now in the operational phase.

9.48.3 There is potential for in combination effect with the above projects however provided they are undertaken in line with the conditions in its respective AA's, MS-LOT concludes that any in combination effects will not adversely affect the site integrity of the Berwickshire and North Northumberland Coast SAC.

9.49 Assessment of in combination effects on the Moray Firth SAC designated site

9.49.1 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.

- Sea Mammal Research Unit, University of St. Andrews - Geophysical Survey (Section 9.3)
- Aberdeen Bay Offshore Wind Farm (Section 9.)
- Ardersier Port Development (Section 9.5)
- BEAR Scotland - Bridge Maintenance Works - Kessock Bridge, Inverness-shire (Section 9.6)

- Beatrice Offshore Wind Farm (Section 9.7)
- Beatrice Offshore Windfarm - Geophysical surveys, benthic surveys and visual inspections (Section 9.8)
- Cromarty Community Development Trust - Alter and Improve a Slipway – Cromarty (Section 9.9)
- Cromarty Community Development Trust - Alter and Improve a Slipway – Nigg (Section 9.12)
- Forthwind (Section 9.17)
- Geophysical Surveys - Inch Cape Offshore Wind Farm (Section 9.18)
- Global Energy Group - Construction/Dredging - Nigg East Quay (Section 9.17)
- Global Energy Nigg Ltd - Removal of Two Dolphin Moorings - Nigg Energy Park Cromarty Firth (Section 9.18)
- Hywind Scotland Pilot Park (Section 9.19)
- Inch Cape Offshore Transmission Infrastructure (Section 9.20)
- Inch Cape Offshore Wind Farm (revised design) (Section 9.21)
- Inch Cape Transmission Infrastructure (revised design) (Section 9.22)
- Installation of new long sea outfall, Spey Bay (Section 9.23)
- Moray East Offshore Wind Farm (Section 9.27)
- Moray East Transmission Infrastructure (Section 9.28)
- Moray West Offshore Wind Farm (Section 9.29)
- Neart na Gaoithe Offshore Wind Farm (Section 9.30)
- Neart na Gaoithe Offshore Wind Farm (revised design) (Section 9.31)
- Peterhead Port Authority - Revetment Works, Alexandra Parade, Peterhead (Section 9.32)
- Seagreen Wind Energy Limited - Geophysical Surveys - Seagreen 1A Cable Route (Section 9.35)
- Dredging operations (Section 9.40)

9.49.2 There 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.

9.49.3 Although in combination effects with the remaining projects are possible, providing the conditions in all AAs are adhered to, there will be no adverse effect on the site integrity of the Moray Firth SAC.

10 MS-LOT Conclusion

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 Firth of

Forth SPA, Imperial Dock Lock, Leith SPA, Forth Islands SPA, Outer Firth of Forth and St Andrews Bay Complex SPA, River Teith SAC, Isle of May SAC, Firth of Tay and Eden Estuary SAC, Berwickshire and North Northumberland SAC or Moray Firth SAC from the Forth Ports Ltd proposal either in isolation or in combination with other projects.

SECTION 4: CONDITIONS

11 Requirement for conditions

- 11.1 The following conditions are required to ensure the project will not adversely affect the site integrity of the Firth of Forth SPA, Imperial Dock Lock, Leith SPA, Forth Islands SPA, Outer Firth of Forth and St Andrews Bay Complex SPA, River Teith SAC, Isle of May SAC, Firth of Tay and Eden Estuary SAC, Berwickshire and North Northumberland SAC or the Moray Firth SAC:

Conditions required for the Marine Licence for construction:

- 11.2 The Licensee must ensure that the Licensed Activity is carried on in accordance with the mitigation detailed in table 14-1 of the Port of Leith – Outer Berth, Environmental Impact Assessment Report dated 11 April 2022 and section A5 of the Port of Leith – Outer Berth, Habitats Regulations Appraisal - Screening for LSE and Provision of Information to Inform Appropriate Assessment, dated 11 April 2022, but subject to the modifications or amendments made within this licence.
- 11.3 The Licensee must ensure that a 500 metre marine mammal mitigation zone is used during piling operations.
- 11.4 A piling shroud must always be used at all times when piling take place during the common tern breeding and post-breeding periods from 1 May to 30 September, inclusive.
- 11.5 The Licensee must avoid undertaking any piling works during the common tern breeding and post breeding seasons 1 May to 30 September, inclusive. If piling is carried out between 1 May and 30 September, inclusive the Licensee must appoint a suitably qualified and experienced Environmental Clerk of works (“ECoW”) prior to commencement of the piling activities. The ECoW must be on site during piling and is responsible for monitoring any disturbance to the common tern colony of the Imperial Dock Lock, Leith Special Area of Conservation. The ECoW must have authority to halt the piling activities if any disturbance of breeding common terns is observed and the Licensing Authority

must be notified. The piling works can only re-commence with further written approval of the Licensing Authority. The ECoW must report to the Licensing Authority detailing monitoring and compliance with the Marine Licence on at least an annual basis.

- 11.6 The Licensee must ensure that all provisions of the ‘Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise’ (2010) (“the JNCC piling protocol”) are adhered to insofar as it is in line with the other conditions of this licence.

Conditions required for the Marine Licence for dredging and deposit:

- 11.7 The Licensee must ensure that the relevant provisions of The Scottish Marine Wildlife Watching Code (2017) are adhered to at all times.

Conditions required for the EPS licence:

- 11.8 The Licensee must ensure that all licensed activities are carried out in strict accordance with the Port of Leith Outer Berth: Construction European Protected Species (EPS) Risk Assessment, but subject to the modifications or amendments made within this licence.
- 11.9 The Licensee must ensure that a 500 metre marine mammal mitigation zone is used during piling operations.
- 11.10 The Licensee must ensure that all provisions of the ‘Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise’ (2010) (“the JNCC piling protocol”) are adhered to insofar as it is in line with the other conditions of this licence.