moray offshore renewables ltd

Environmental Statement

Technical Appendix 7.3 H - EPS Assessment: Supplementary Information

Telford, Stevenson, MacColl Wind Farms and associated Transmission Infrastructure Environmental Statement

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1. Introduction

In 2009, Moray Offshore Renewables Limited (MORL) was awarded a Zone Development Agreement by The Crown Estate to develop Zone 1 of the nine UK offshore wind Round 3 zones (henceforth referred to as MORL Zone).

MORL is a joint venture (JV) that was established by EDP Renewables (EDPR) and SeaEnergy Renewables Ltd. In June 2011, SeaEnergy Renewables Ltd was acquired by Repsol Nuevas Energias UK. Moray Offshore Renewables Ltd is now owned 67 % by EDPR and 33 % by Repsol Nuevas Energias UK.

1.1 Purpose of this report

The purpose of this appraisal is to provide a summary of potential effects to European Protected Species (EPS) from construction activities during the construction of the proposed MacColl, Stevenson and Telford offshore wind farms and discuss them in the context of the Habitats Directive. Information provided here will be based on that discussed in Technical Appendices 4.4 A and 7.3 A-F.

The need to consider effects upon EPS in waters off Scotland comes from two pieces of legislation which transpose the requirements of the Habitats Directive (Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora), namely the Conservation (Natural Habitats &c.) Regulations 1994 (as amended in Scotland), and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended). These Regulations (collectively known as the 'Habitat and Offshore Marine Regulations') prohibit the deliberate capture, injury or killing of any wild animal of an EPS, or disturbance of any wild animals of an EPS, as listed under Annex IV of the Habitats Directive. In addition, the Habitats Regulations 1994 (as amended in Scotland) has provision for an offence to be caused by the disturbance or harassment of a wild animal or group of wild animals of an EPS, including during migration. All species of cetacean are listed as EPS.

MORL intend to install a met mast on a 4.5 m monopile foundation within the Stevenson site over a two week period during 2012, and will take the opportunity to participate in surveys designed to reduce some of the conservative assumptions made within the assessment methodology described with the six Marine Mammal Technical Appendices 7.3 A-F, which are detailed in Table 7.3.11 of Chapter 7.3. These surveys, and how it is hoped they will enable refinement of the assumptions, are detailed in 7.3.7.26 to 7.3.7.30, in Chapter 7.3. It is anticipated that the assessment contained within this appendix will also be revisited once construction parameters have been finalised and amendments made were necessary. There is also the potential for mitigation measures that may have been developed to commercial viability for the deep, tidal waters of the Moray Firth to be incorporated in any revised modelling.

2. Proposed projects

The MORL Zone is located in the outer Moray Firth on the Smith Bank approximately 22 km (12 nm) from the Caithness coastline. The water depths range from 37 - 57 m (20-31 ftm). The zone itself covers 520 km^2 (281 nm^2).

Detailed analysis of the zone identified two separate development areas, the Eastern Development Area (EDA) and the Western Development Area (WDA) and it was decided to develop the EDA first. Within the EDA, three offshore wind farm sites are being proposed:

- Telford Offshore Wind Farm (Telford), for which consents for construction and operation are being applied for by Telford Offshore Wind Limited. Telford is located in the north-east of the EDA. The site covers 97 km^2 (52 nm^2) and has water depths of approximately 39 - 57 m (21-31 ftm).
- Stevenson Offshore Wind Farm (Stevenson), for which consents for construction and operation are being applied for by Stevenson Offshore Wind Limited. Stevenson is located in the north-west of the EDA. The site covers 77 km^2 (42 nm^2) and has water depths of approximately 37 - 53 m (20-29 ftm).
- MacColl Offshore Wind Farm (MacColl), for which consents for construction and operation are being applied for by MacColl Offshore Wind Limited. MacColl is located in the south of the EDA. The site covers 125 km^2 (68 nm^2) and has water depths of approximately 37 - 57 m (20 - 31 ftm).

Consent for transmission infrastructure (TI) required to transfer the power from the three sites to an onshore connection to the National Grid, is also being proposed.

The onshore connection would be to the Peterhead Power Station. The proposed export cable route to the onshore connection has a landfall at Fraserburgh Beach. The transmission route to Peterhead via Fraserburgh Beach would be 28.6 km in length. These assets will ultimately be transferred to and operated by an Offshore Transmission Owner (OFTO).

The proposed wind farms, Telford, Stevenson and MacColl, will each have a maximum capacity of 500 MW. A summary of the infrastructure within each site is provided below:

- Wind turbines rated between 3.6-7 / 8 MW;
- Wind turbine substructures and foundations, of which there are two potential concepts:
    - Jacket substructure with pin pile foundations;
    - Gravity Base Structure with a gravel bed foundation; and
- Alternating current (AC) Inter-array cabling of a voltage between 33-66 kV.

Overall, consent is being sought to construct up to a maximum total capacity of 1,500 MW across the three sites. Consent has already been granted for a meteorological mast to be installed within the EDA in2012. Plans to install a second meteorological mast within the EDA are incorporated within this assessment although the location of the installation is currently unknown.

A summary of the offshore transmission infrastructure that would be required for the offshore connections is provided below.

- Six AC collector Offshore Substation Platforms (OSPs);
- Two Direct Current (DC) converter OSPs;
- AC OSP connector cabling of a voltage of 220 kV; and
- Two bundles of DC export cabling of a voltage of 320 kV.
- The substructures and foundations for the OSPs include:
    - Jackets with pin piles;
    - Jacket with suction caissons;
    - Jack-up with pin piles;
    - Jack-up with suction caissons; and
    - Gravity Base Structures with gravel bed foundation.

3. Legislation

The need to consider effects upon EPS in waters off Scotland comes from two pieces of legislation which transpose the requirements of the Habitats Directive (Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora), namely the Conservation (Natural Habitats &c.) Regulations 1994 (as amended in Scotland), and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended).

These Regulations (collectively known as the 'Habitats and Offshore Marine Regulations') prohibit the deliberate capture, injury or killing of any wild individual of an EPS, or disturbance of any wild animals of an EPS, as listed under Annex IV of the Habitats Directive. In addition, the Habitats Regulations 1994 (as amended in Scotland) has provision for an offence to be caused by the disturbance or harassment of a wild animal or group of wild animals of an EPS, including during migration. All species of cetacean are listed as EPS.

Draft guidance titled '*The Protection of Marine European Protected Species from Injury and Disturbance*' was first published in March 2010, with a subsequent revision dated June 2010, by the JNCC, Natural England and the Countryside Council for Wales (JNCC *et al.,* 2010). It is intended that this document be used as a resource, when a view is needed as to whether there is potential for an offence of deliberately disturbing or injuring/killing a marine EPS to occur, or to have occurred, as a result of an activity.

As previously discussed within this ES, the greatest potential impact on marine mammals will come from piling noise. The guidance above considers certain activities that produce loud noises in areas where an EPS could be present to have the potential to result in an injury or disturbance offence, unless appropriate mitigation measures are implemented. The risk of an offence being committed is dependent on a number of factors including:

- Duration of noise associated with the activity;
- Presence/absence of semi-resident populations of EPS;
- Frequency of occurrence of EPS;
- Density of occurrence of EPS; and
- Length of stay of individuals in a given area.

The JNCC *et al* (2010) report considers that the potential for disturbance from some activities can be considered trivial, which basically includes activities that lead to

"*sporadic disturbances without any likely negative impact on the species*".

For an activity to be considered non-trivial, the report states that

"*The disturbance to marine EPS would need to be likely to at least increase the risk of a certain negative impact on the species Favourable Conservation Status (FCS)*".

FCS is defined in the Habitats Directive by the following:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable element of its natural habitats.
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future.
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

4. European Protected Species within the Moray Firth

All cetacean species are listed on Annex IV of the Habitats Directive and therefore considered EPS. Twenty-eight species of cetacean have been recorded within UK waters with 14 of these species observed in the Moray Firth. Of these 14 species, the harbour porpoise, bottlenose dolphin and minke whale are the most abundant.

Harbour porpoises are distributed throughout the Moray Firth (Hastie et al., 2003b; Thompson *et al*., 2010; Robinson *et al*., 2007). Although the original SCANS surveys did not encompass the Moray Firth, estimates of porpoise density for the closest surveyed regions were 0.36 and 0.78 animals/km^2 (Hammond et al., 2002) with spatially smoothed predictions of porpoise density suggesting relatively high densities within the Moray Firth (1.2 animals/km^2). The SCANS II survey did include the Moray Firth (SCANS II, 2007) and estimated harbour porpoise densities within the ranges of the original SCANS estimates but lower than the smoothed prediction for the Moray Firth (0.4 to 0.6 animals/km^2). Recent data collected from the outer Moray Firth supports the relatively high occurrence of porpoises, with a density estimates for the Moray Firth of 0.64 animals/km^2 (Technical Appendix 4.4 A).

The most recent population estimate of **bottlenose dolphin** abundance around the northeast coast of Scotland is 196 individuals (95% probability interval 162-245; Thompson et al., 2011; Cheney et al. In Press). Although the majority of the population (71 to 111 individuals) appear to regularly utilise the Moray Firth SAC (95% CI: 66-161), it is clear that a relatively high number individuals also frequently utilise areas outside the SAC (Thompson *et al*., 2006; 2009). The distribution of bottlenose dolphin sightings within the Moray Firth appear to be coastal, with the majority occurring in the inner Moray Firth and along the southern coast, generally in waters of less than 25 m deep (Hastie et al., 2003a; Robinson *et al.,* 2007). Parts of the population exhibit movement patterns between the Moray Firth and other areas. For example, bottlenose dolphins from the Moray Firth SAC are regularly sighted in the Tay (Thompson *et al.,* 2011), and MORL are aware that the Firth of Forth Tay Offshore Wind Developers Group (FTOWDG) commissioned a piece of work from SMRU Ltd that confirmed this connectivity.

Minke whales are the most abundant baleen whale species within the Moray Firth, with sightings being reported throughout the area (Reid et al., 2003; Robinson et al., 2007; Thompson *et al.,* 2010). Much of the research has concentrated on the southern coast and deeper trench waters, with observations most commonly occurring in deeper waters further from the shore in late summer (Robinson *et al*., 2007; Eisfeld *et al.,* 2009). The SCANS II Survey (2007) gave an overall abundance estimate for minke whale of 18,614 (95% CI = 10,445-33,171) and a density estimate for the Moray Firth, Orkney and Shetland areas combined of 0.022 animals per km2 (1.02 CV).

Details of the less abundant species can be found in Technical Appendix 4.4 A: Baseline Marine Mammals.

5. Summary of potential impacts

The information provided here is a summary of the information provided in Technical Appendix 7.3 A: Marine Mammal Impact Assessment. This appendix provides full details of potential effects associated with the proposed wind farm developments and methodologies used to assess these potential impacts. Table 5.1 below presents definitions of some of the terminology used in these impact assessments (see Technical Appendix 7.3 A for full details).

Table 5.1: Summary of definitions used in impact assessment.

	Duration		
Magnitude	**Short term (days)**	**Medium term (construction years)**	**Long term (25yrs)**
High (>20%) of population	Major significance (short term)	Major significance (medium term)	Major significance (long term)
Medium (>10%)	Minor significance (short term)	Moderate significance (medium term)	Moderate significance (long term)
Low (<10%)	Negligible significance	Minor significance (medium term)	Minor significance (long term)

Of the 16 marine mammal species identified in Technical Appendix 4.4 A: Baseline Marine Mammals, five species were highlighted as being the most abundant and therefore became the focus of the impact assessment. These species were:

- Harbour porpoise
- Bottlenose dolphin
- Minke whale
- Harbour seal
- Grey seal.

Assessments made regarding the three cetacean will form the focus of this appraisal. A summary of the impact assessments for cetacean species discussed in relation to the Project (three proposed wind farms and TI) can be found in Table 5.2 below. The cumulative impacts with other proposed developments within the Moray Firth (primarily the neighbouring Beatrice Offshore Wind Farm (BOWL)) are also included.

Table 5.2: Summary of predicted effects associated with the Project and other developments within the Moray Firth.

Potential Impact	Predicted effect	Duration
Construction Phase		
Increased anthropogenic noise from construction activities other than piling	Minor significance	Medium duration
Increased anthropogenic noise from piling resulting in behavioural displacement	Moderate to major significance	Medium duration
Collision risk from construction traffic	Minor significance	Medium duration
Use of ducted propellers	Minor significance	Medium duration
Reduced prey sources (due to noise from construction activities)	Minor significance	Moderate duration
Reduced foraging ability as a result of increased turbidity associated with construction activities	Minor significance	Medium duration
Operational Phase		
Turbine operating noise	Not significant	Long duration
Collision risk associated with maintenance vessels	Minor significance	Short duration
Use of ducted propellers	Not significance	Short duration
Habitat loss resulting in reduced prey availability	Not significant	Long duration
Electromagnetic fields effecting navigation	Not significant	Long duration
Heavy metal contamination from sacrificial anodes and antifouling paints	Not significant	Long duration
Cumulative impacts		
Increased anthropogenic noise from construction activities other than piling	Minor significance	Medium duration

Potential Impact	Predicted effect	Duration
Increased noise from piling on MORL and BOWL site resulting in behavioural displacement	Medium to high significance	Medium duration
Increased risk of collision with vessels associated with multiple developments	Minor significance	Medium duration
Habitat loss resulting in reduced prey availability	Not significant	Long duration

Noise produced during the piling of turbine and offshore substation platforms (OSPs) foundations resulting in behavioural displacement (highlighted in blue in Table 5.2 above) is the one potential effect identified as likely to have a highly significant impact on the EPS populations within the Moray Firth.

Modelling of the potential effects from piling noise on behalf of MORL has been undertaken between Subacoustech Environmental Ltd., the University of Aberdeen and SMRU Ltd. Full details of this methodology can be found in Technical Appendices 7.3 A-F.

A summary of the outputs from this modelling process for each of the three proposed sites (MacColl, Stevenson and Telford) and the associated OSP foundations can be found in Table 5.3 below. The cumulative effects arising from all three proposed sites being constructed simultaneously and in combination with the neighbouring Beatrice Offshore Wind farm (BOWL) site are also presented.

In order to predict displacement, upper, lower and best fit estimates for the relationship between the probability of displacement and received noise levels were used (see Technical Appendix 7.3 B: Seal assessment framework for more details). This provides upper, best and lower estimates of the number of individuals displaced for all the species assessed. The impact assessments summarised below in Table 5.3 are based on the outputs from the most precautionary models (upper).

Table 5.3: Summary of impact modelling results for the three proposed wind farms and associated OSPs. Figures represent the percentage of animals predicated to be displaced by the most precautionary model, based on SAFESIMM model at 198 dB SEL for cetaceans.

% Displacement	Harbour porpoise	Bottlenose dolphin	Minke whale
MacColl (two vessels)	75	17	15

% Displacement	Harbour porpoise	Bottlenose dolphin	Minke whale
Stevenson (two vessels)	84	13	14
Telford (two vessels)	67	12	14
OSPs	66	14	14
All three sites built together (six vessels)	84	19	15
MORL & BOWL built together (eight vessels)	84.2	41.8	15.2

The percentages of minke whales and harbour porpoise predicted to display behavioural avoidance by the most precautionary models presented are greater than 20% for all scenarios investigated. Both harbour porpoise and minke whales exhibit generalised distributions and are not tied to specific feeding or breeding grounds within the Moray Firth. The impacts from piling within the Moray Firth were considered (for all scenarios) to be of **high magnitude** over a **medium duration.**

The percentage of bottlenose dolphins predicted to display behavioural avoidance were between 12 and 18% depending on the scenario. The impacts of this displacement were considered to be of **medium magnitude** over a **medium duration**.

To investigate the long term effects of piling noise, population modelling was conducted for the bottlenose dolphin population (see Technical Report 7.3 A for methodology and full results). A period of 25 years was chosen for the model as it represented the predicted life span of the proposed developments and is in line with published data on marine mammal life expectancies (see Technical Appendix 7.3 B: Seal Assessment Framework).

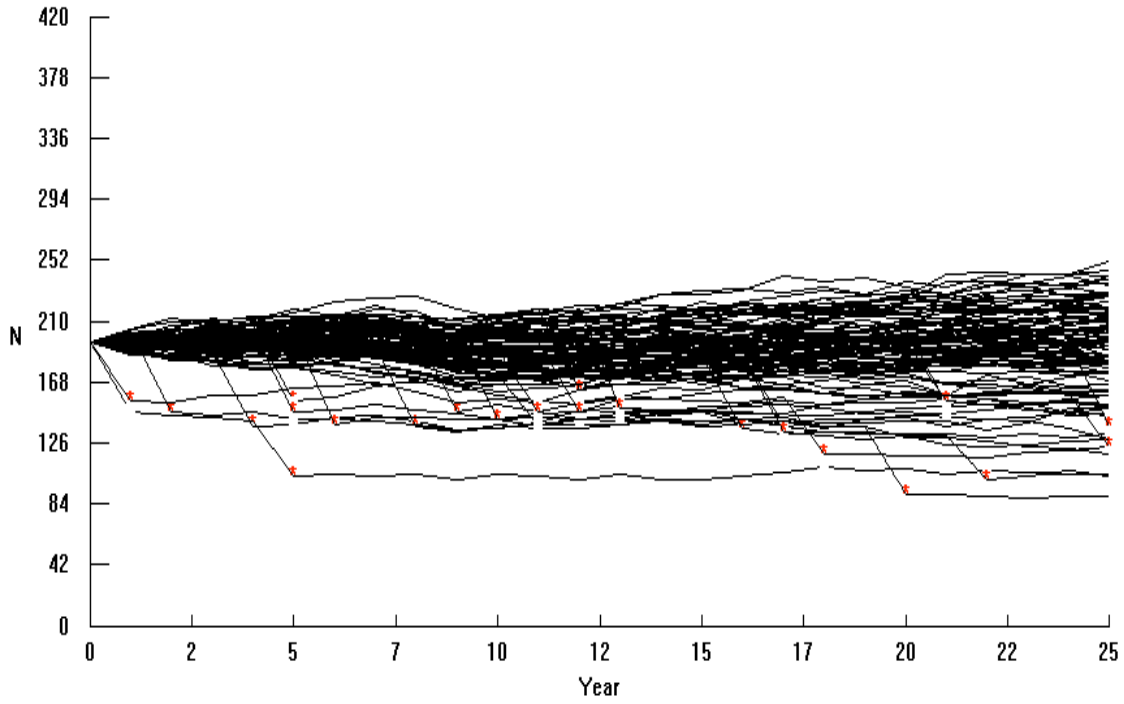
The model used a stochastic individual-based model previously used to compare management strategies for the Moray Firth bottlenose dolphin population (Thompson *et al.*, 2000). This uses available literature values for bottlenose dolphin demographic and life-history parameters in the programme VORTEX to produce a baseline model against which disturbance scenarios are compared.

The scenarios for bottlenose dolphins were compared against a baseline model by running each model 100 times and comparing the frequency distributions of final population sizes for the impact and baseline scenarios. An example of the model outputs can be found in Figure 5.1 below, based on the scenario that all three sites (MacColl, Stevenson and Telford) are built out together with two piling vessels operating within each site (six vessels in total). This illustrates that, while a range of population sizes after 25 years are predicted, the disturbance appears to have no long term impact on final population sizes.

Chapter 4.4 of the ES (Marine Mammals) shows that the bottlenose dolphin population is found almost exclusively within the coastal strip of the Moray Firth, and animals rarely occur in waters over Smith Bank. It is therefore not unexpected that the modelling predicts that negligible numbers of individuals are exposed to levels of noise that might induce Permanent Threshold Shift (PTS), and only medium magnitude levels of displacement. There is potential for some displacement along the southern coast of the Moray Firth, but the relatively low levels in this area and gaps within the piling regime are expected to be sufficient to enable animals to continue to use these areas.

The population modelling using worst case scenarios indicates that there will be no long term impact upon the population size from all modelled construction scenarios when compared with baseline scenarios. The overall impact is considered to be of low magnitude (predicted population size within 10% of that predicted as a baseline if population parameters to not change within the Moray Firth) and so **minor significance**.

Both harbour porpoise and minke whales exhibit generalised distributions and are not tied to specific feeding or breeding grounds. The modelled numbers of individuals of both species predicted to experience noise levels sufficient to induce the onset of PTS are of low magnitude, while the impacts from piling within the wind farm sites on individuals within the Moray Firth are considered of medium term and **major significance**. Given the generalised distribution and relative abundance of both species, the long impacts at the population level are predicted to be **minor significance**.



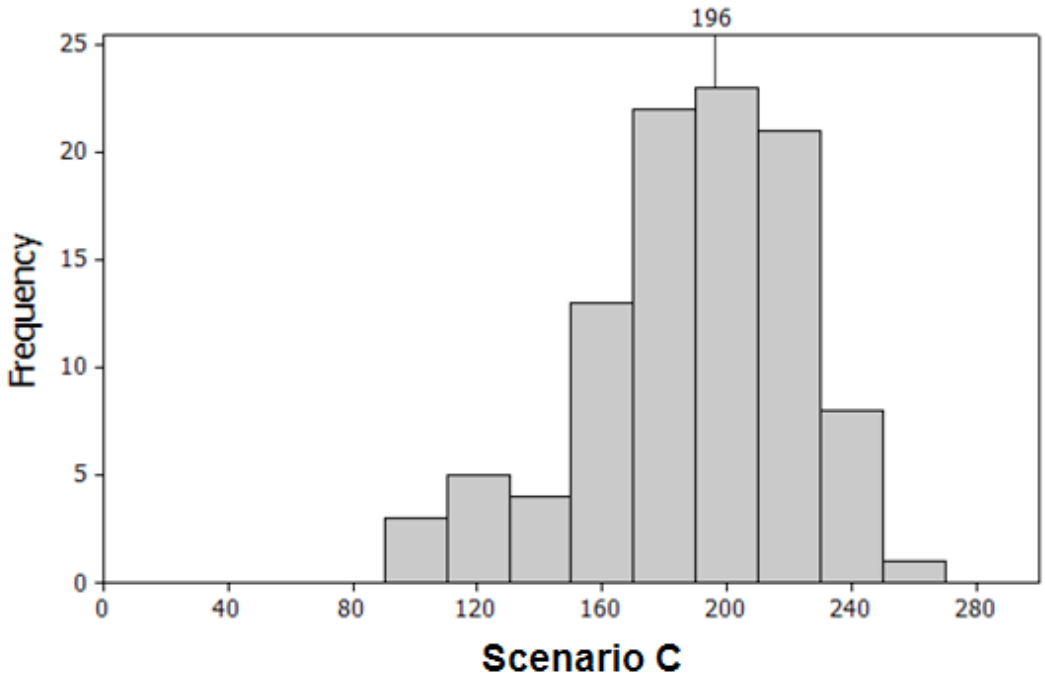


Figure 5.1: Six vessel for all three sites, with a construction phase of two years (Scenario C) - Population modelling for the bottlenose dolphin population in the Moray Firth. Data based on 198 dB SAFESIMM model outputs. Upper = population size graph; lower = frequency distribution of population size.

6. Proposed mitigation

A number of propose management and mitigation protocols were discussed within the ES. Existing JNCC guidelines require the presence of a marine mammal observer prior to piling commencing and the instigation of a "soft start" procedure once piling starts. Further details of these procedures can be found below:

Marine Mammal Observer (MMO)

The primary role of the MMO is to act as an observer for marine mammals and to recommend a delay in starting piling should a marine mammal be observed within the designated distance (see below) during the pre-installation survey. A pre-requisite for an MMO is that they have received formal training from a JNCC recognised course. Given the sensitive nature of the area, the MMO will be experienced in observing the marine mammal species that are likely to be encountered. MMOs will be present in sufficient numbers to ensure mitigation is not comprised by fatigue.

All observations are to be conducted from the source vessel. If more than one vessel is working simultaneously within the site, a MMO will be present on each vessel. The MMO would be positioned on a platform with a clear unobstructed view to the horizon with ideally, a 360° field of view. Communication channels between the MMO and the crew would be in place before commencement of the watch. The MMO would be aware of the timing of the proposed operations so they can ensure they are in place at the appropriate times. The MMO will be equipped with binoculars, a copy of the mitigation methods and recording forms. The MMO will concentrate their efforts during the pre-installation survey, although if any marine mammals are observed during other times, they are encouraged to record them.

The radius of the mitigation zone will be defined after consultation with regulatory bodies but will be no less than 500 m radius from the pile location.

The pre-installation survey is to be conducted for 30 minutes prior to beginning operations. The MMO will survey the surrounding area and notify the crew if any marine mammals occur within the mitigation zone during this period. The area will be surveyed primarily using the naked eye, with binoculars being used to confirm presence and identification. A range finder or similar can be used to estimate distance.

If operations are paused, for any reason, for longer than 10 minutes, then a new pre-installation survey and soft-start (see below) would be conducted. If the MMO has continued to observe during the piling procedure and is able to confirm the presence/absence of marine mammals within the mitigation zone, it may be possible to start the ramp up procedure immediately.

Passive Acoustic Monitoring (PAM)

Passive acoustic monitoring will be employed concurrently with the visual survey. This involves the use of underwater hydrophones to detect marine mammal sounds. The system has its limitations, for example, not all marine mammals vocalise and not all of the time. Detection range varies with species and is difficult to predict but PAM is a useful supplement to visual observations, particularly during periods of low visibility (for example high sea states and during darkness) and for harbour porpoise within 500 m.

As with the visual survey, the PAM operator will notify the crew and MMO if any marine mammals occur within the mitigation zone during the 30 minute pre-piling survey.

Acoustic Deterrent Devices (ADDs)

Acoustic deterrents (i.e. pingers, seal scarers) have the potential to reduce the risk of injury by excluding animals from the area and can be used in conjunction with the visual/PAM surveys, although evidence to their efficiency in limited.

Devices would only be used in accordance with recommended conditions from advisory bodies for the purpose of preventing disturbance constituting an offence under regulation 41 of the Habitats Regulations and 39 of the

Offshore Marine Regulations.

Should ADD be utilised, the device would be positioned in the water close to the pile but not necessarily on the installation vessel. It would be switched on through the pre-installation survey and turned off immediately piling commences.

Soft-Start

A soft start is the gradual ramping of power over a set period. Soft start duration can vary depending on substrate type, pile design and the hammer used but will continue over a period of no less than 20 minutes.

If a marine mammal is observed within the mitigation zone during the 30 minute pre-piling survey, the soft-start will be delayed until the animal has not been sighted for 20 minutes within the mitigation zone.

If a marine mammal enters the mitigation during the soft start, if possible, piling would cease or power will not increase until the animal has not been detected for a further 20 minutes.

If the animal can still be observed but is outside the mitigation zone, piling would begin, with its presence noted on the records. If an animal is observed within the mitigation zone after the operations have begun, there is no requirement to stop operating.

Reporting

A log will be kept of all pre-installation surveys and duration of operations. Reports detailing piling activity and mitigation will be sent to the relevant conservation agency (in this case SNH and JNCC) at the end of the piling activity.

7. Summary

The Regulations (collectively known as the 'Habitat and Offshore Marine Regulations') prohibit the deliberate capture, injury or killing of any wild individual of an EPS, or disturbance of any wild animals of an EPS, as listed under Annex IV of the Habitats Directive. In addition, the Habitats Regulations 1994 (as amended in Scotland) has provision for an offence to be caused by the disturbance or harassment of a wild animal or group of wild animals of an EPS, including during migration.

All species of cetacean are listed as EPS. The risk of an offence being committed is dependent on a number of factors including:

- Duration of noise associated with the activity;
- Presence/absence of semi-resident populations of EPS;
- Frequency of occurrence of EPS;
- Density of occurrence of EPS; and
- Length of stay of individuals in a given area.

The impact assessments for the three proposed offshore wind farms (Telford, Stevenson and MacColl) summarised above illustrate that the one impact that is likely to have a significant effect on cetaceans is piling noise, resulting in behavioural displacement. Modelling undertaken on behalf of MORL suggests that while effects during the construction phase on the proposed developments will be of a high magnitude, the long-term effects at the population level will be of minor significance.

MORL is working with The Crown Estate and other developers with regards to investigating and developing best practice for mitigation measures that may be implemented to reduce either the level of noise at the source or noise propagation. These investigations have shown that such mitigation measures are at the concept design or early prototype testing stage, and thus not commercially viable for the deeper, tidal sites such as the Moray Firth at present.

Although the construction parameters and programme is yet to be finalised, it is currently envisaged that an EPS licence will be required to disturb marine mammals during the construction phases of Telford, Stevenson and MacColl.

As discussed above, MORL intend to install a met mast on a 4.5 m monopile foundation within the Stevenson site over a two week period during August and September 2012, and will take the opportunity to participate in surveys designed to reduce some of the conservative assumptions made within the assessment methodology described with the six Technical Appendices A-F, which are detailed in Table 7.3.11 of Chapter 7.3. It is anticipated that the assessment contained within this appendix will be revisited once these refinements to the conservative assessment assumptions have been possible.

New and novel mitigation measures will be investigated further during the pre-consent phase of the MORL developments, along with refinements in the construction parameters of the Rochdale Envelope, with the aim of reducing impacts of European Protected Species. An application for an EPS licence will be submitted utilising all of the above information prior to construction commencing, once a construction method statement is finalised.

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