Peterhead - Smith Quay Extension

Extended Working Hours Note

Peterhead Port Authority

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1 Introduction

Specific assumptions relating to the timing of construction works (with respect to hours of working, e.g. day/night) for the Peterhead Harbour Smith Quay Extension were not set out during preparation of the Marine Licence application, and supporting assessments, since detailed information on the scheduling of construction works was not available at the time the assessment was drafted. However, it was assumed that works would take place 'primarily during daylight hours', as reflected in mitigation proposed in relation to marine mammals (visual observer).

As a consequence of the contractor selection process, it has become apparent that in order to deliver a viable project, flexibility to work outside daylight hours may be required.

This Note has been prepared to support a potential change to allow more flexibility to working arrangements, including working at night.

The scheduling of works, taking into account both working hours and daylight periods, is pertinent to several activities and impact receptors addressed in the Environmental Appraisal and associated documentation supporting the Marine Licence application. These are considered in relation to airborne noise, traffic, and underwater noise, below.

2 Airborne Noise & Traffic

In relation to airborne noise and potential impacts for local communities, the Environmental Appraisal commits to the following (Section 7.4.12):

A robust CEMP will detail noise control measures, following BS 5228:2009+A1:2014 (Code of Practice for noise/vibration on construction sites). Best Practicable Means will be employed, including:

• Using modern, well-maintained equipment with efficient mufflers and silencers.

• If necessary to meet required thresholds[1], erection of temporary acoustic screens or barriers around particularly noisy stationary plant (e.g. hydraulic power units or generators) to block line-of-sight to the nearest homes. Given the short 180 m separation, even a 2–3 m high barrier at the site boundary could yield a ~5–10 dB noise reduction for ground-level equipment.

• Scheduling and work-hour limits: High-noise tasks like piling will be timed to avoid early morning or late evening. No nighttime percussive work will occur. If overtime working is needed, quieter tasks (e.g. fitting rebar, formwork) will be done in the evening, with noisy machinery shut down.

Scheduling of work-hour limits would also serve to minimise disturbance and disruption from construction-related traffic, although the Environmental Appraisal makes clear that only minor impacts are expected.

In order to allow flexibility, whilst protecting local amenity, it is proposed that the following scheduling restrictions will be applied:

- Landward construction activities to take place between 07:00 and 21:00 (7 days)
- Piling/percussive works and rock breaking between 07:00 and 21:00 (7 days)
- Seaward activities, including dredging, to take place on a 24-hour basis

3 Underwater Noise

In relation to underwater noise and potential impacts to cetaceans, the European Protected Species (EPS) Risk Assessment concluded that marine mammal observer (MMO) mitigation should be applied in order to avoid risk of injury to cetaceans in close proximity (500 m mitigation zone) to dredging, piling, or rock breaking (mechanical or Cardox use). For minke whale, the mitigation would be extended to include the harbour entrance area during mechanical rock breaking works.

[1] Based on maintaining construction noise at no more than 10 dB above ambient levels (Environmental Appraisal Section 7.4.11).

In order to reduce the risk of disturbing cetaceans, the EPS Risk Assessment concluded that visual surveillance should be extended as follows for certain cetacean groups in relation to specific works:

- Dredging, 1.5 km for low frequency (LF) and high frequency (HF) cetaceans (e.g. minke whale and bottlenose dolphin respectively).
- Piling, 4.5 km for very high frequency (VHF) cetaceans (harbour porpoise).

With the exception of harbour porpoise, all cetacean species would be readily detected by visual observation during daylight hours. No supplementary mitigation was proposed because works were assumed to be planned primarily during daylight hours and the chance of cetacean species, including harbour porpoise, occurring within the inner harbour is very low (no records of such events having been found).

If certain works occurred at night, then given current understanding of risk levels for cetaceans, additional mitigation would be appropriate. Underwater noise modelling (Annex 1 Noise Modelling Report) was based on conservative assumptions; however, for present purposes it is assumed that in order to reduce risk of injury to negligible levels additional mitigation would be appropriate where surveillance is required outside the inner harbour area, i.e.:

- for LF cetaceans such as minke whale in relation to mechanical rock breaking and injury risk.

In order to reduce risk of disturbance, additional mitigation could be appropriate for:

- LF and HF cetaceans in relation to dredging.
- VHF cetaceans in relation to piling.

The use of acoustic deterrent devices has already been discounted in the EPS Risk Assessment as disproportionate, given the low likelihood of EPS being present and their potential to add to overall disturbance risk.

Passive acoustic monitoring (PAM) could be applied in place of visual surveillance to provide coverage of the harbour entrance area for LF cetaceans, should mechanical rock breaking works occur at night. PAM would also serve to reduce risk of disturbance from dredging for LF and HF cetaceans, and from piling for VHF cetaceans. In practice, the area required to be covered in relation to harbour porpoise (up to 4.5 km from works) is not practically achievable since vocalisations of this species can typically be detected over only a few hundred metres; however, a PAM location around the harbour entrance would reduce risk of relevant works commencing when porpoise were present, and would provide good coverage for other species which are more readily detected.

In summary, based on current understanding of noise levels from planned works, should mechanical rock breaking, dredging or piling take place outside daylight hours then use of PAM would be proposed as a substitute for visual surveillance. Updates to mitigation proposed in the EPS Risk Assessment are summarised in Table 3.1.

Table 3.1 Summary of mitigation for marine mammals (updates to that proposed in Table 5.10 of EPS Risk Assessment highlighted in bold).

Activity (Injury (I) / Disturbance (D))	**Mitigation (Section** Error! Reference source not found. **of EPS Risk Assessment)**
Vessel collision (I)	Harbour bylaw limiting speed. Adherence to Scottish Marine Wildlife Watching Code. Awareness raising via CEMP.
Dredging (I)	MMO (500 m mitigation zone around works). **PAM outside daylight hours.**
Dredging (D)	MMO (minimise risk of LF and HF cetaceans being present within 1.5 km of works). **PAM outside daylight hours.**
Piling (I)	MMO (500 m mitigation zone around works). **PAM outside daylight hours.**
Piling (D)	MMO (mitigation zone to harbour entrance for LF and HF cetaceans, minimise risk of VHF cetaceans being present within 4.5 km of works). **PAM outside daylight hours.**
Rock breaking (mechanical) (I)	MMO (500 m mitigation zone around works, extended to harbour entrance for LF cetaceans). **PAM outside daylight hours.**
Rock breaking (mechanical) (D)	MMO (mitigation zone to harbour entrance for VHF cetaceans). **PAM outside daylight hours.**
Rock breaking (Cardox) (I)	MMO (500 m mitigation zone around works)
Rock breaking (Cardox) (D)	MMO (mitigation zone to harbour entrance for LF and VHF cetaceans)
Vessel underwater noise (D)	Harbour bylaw limiting speed. Adherence to Scottish Marine Wildlife Watching Code. Awareness raising via CEMP.