

Mooring Installation Marine Licence Extension Consideration



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1 Introduction

This report supports Kishorn Ports Ltd's (KPL) proposal for an extension to their Marine Mooring Licence 05074/14/0, (which expires on the 1st June 2020) as required by the Marine Licence Application for Moorings. It lays out the planned works, the associated environmental implications of the works and how the proposal meets the objectives and policies required for sustainability under the Scottish National Marine Plan.

The currently consented mooring areas (Drawing 55-02-01, Drawing 55-02-02 (drawings provided in Appendix 1) and also Figure 1) are located 3.3 km (Area 6) and 6.5km (Area 7) from the Kishorn Dry Dock and are to be retained for use. A variety of vessels and marine structures, supporting multiple industrial sectors, are expected to utilise the moorings. The proposed retention of mooring areas will provide safe berthing by installing a system of moorings to restrain vessels and marine structures in position. This will increase the commercial attractiveness of the area by establishing a site useful for a range of marine activities, complementing the Dry Dock facilities on offer. For example, the installation of a system of moorings has the potential to provide temporary storage for wind turbines with gravity bases before delivery to windfarm sites.

The original mooring licence application was supported by an Environmental Statement (ES) produced by Dalgleish Associates (Dalgleish Associates Ltd, 2013) during their work on the regeneration of Kishorn Yard, Dry Dock and Quays. Where appropriate the ES has been utilised to inform this assessment.

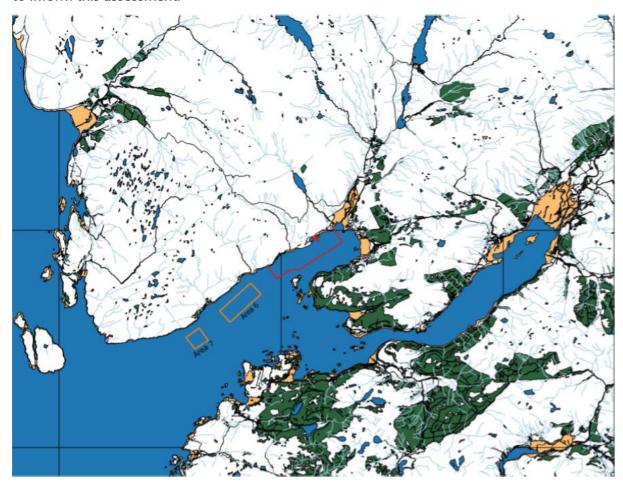


Figure 1: Location of Mooring Areas 6 & 7 (orange) Relative to Kishorn Dry Dock (red star).





2 Description of Mooring

2.1 Project Need

Kishorn Port and Dry Dock is the former construction site of the Ninian Central Platform. At present, the port is open for use to a variety of sectors including: Renewables, Oil & Gas, Forestry and Aquaculture, with fish feed products being shipped from the site to offshore fish farms.

The Kishorn Port and Dry Dock site was identified in Scottish Enterprises' published National Renewables Infrastructure Plan (NRIP) and NRIP2, as a potential manufacturing and distribution hub for the offshore renewables industry, with the Dry Dock providing the ideal location for the construction of concrete caissons for the offshore wind industry and for the possible decommission of floating structures.

The following descriptions of the works being proposed to take place are to ensure that the facility can be used as a multi-purpose site for various industries.

2.2 Mooring Installation

The mooring design will depend on the specific requirement of users. Moorings will be appropriately sized and located to ensure the safe mooring of the vessel or marine structure being accommodated. It is anticipated that there will be no more than 16 moorings installed in each of the two mooring areas, 32 in total.

The equipment will be installed using an Anchor Handling Vessel or Work Boat with a crane on-deck. The installation is also likely to require winches and the assets of a diving team.

3 Environmental Assessment and Considerations

Environmental topics have been considered in turn with regard to potential mooring installation and operational effects in Table 1. Table 1 takes into account the assessment completed in the 2013 ES (Dalgleish Associates Ltd, 2013), identifying areas where additional assessment was required to be completed. The additional desk study and literature search have been undertaken to inform the characterisation of any changes to baseline conditions, these are detailed in Section 3.2.

Table 1: Potential Environmental Effects from Installation and Operations

Topic	Potential Effects		
	Installation	Operation	
Acoustics: In Air	Minimal marine plant required for a short period of time; no in-air noise effects predicted.	Noise levels will be determined by the vessels/structures being moored e.g. need to run engines for power. No significant effects predicted due to location and periodic use. The ES concluded that noise levels due to an increase in plant and vessel movements would have negligible impact.	





Topic	Potential Effects			
	Installation	Operation		
Acoustics: Underwater	Noise generated from marine plant will primarily be engine noise, this is consistent with vessels normally operating in the area and hence no noticeable change is expected.	Noise levels will be determined by the vessels/structures being moored e.g. need to run engines for power. While there is potential for a periodic increase in plant/vessel use as a result of the installations, the previous ES assessed the level of noise associated with the works as having negligible impact.		
Air Quality	Greenhouse gas emissions from burning of fossil fuels on marine plant. Installation period will be short and therefore no significant reductions to air quality are anticipated.	Air Quality will not be compromised during operations as the level of vessel traffic within Loch Carron should not reach levels which would result in long term significant impacts to air quality.		
Archaeology and Cultural Heritage	No historical sites lie within the area of the proposed works and therefore no direct effects on archaeology are predicted.	Russel Post Medieval archaeological site was previously considered under the redevelopment of the former Oil Construction Yard at Kishorn in 1999 but was found to be out with the planned redevelopment. No historical sites lie within the area of the proposed works and therefore no direct effects on archaeology are predicted.		
Contamination and Ground Conditions	Potential disturbance effect consider Minimal disturbance of the seabed during mooring installation. Area unlikely to be contaminated due to a lack of historical activity in this area. Risk of contamination release very low.	No effects predicted due to lack of interaction with the seabed.		
Landscape, Seascape and Visual	Visual effects will be temporary (i.e. marine vessel presence) during the installation of the moorings and will not affect the overall visual aspects of the seascape.	Operational use of moorings will cause very little change to the landscape of the site and the environment as these are common practices within the seascape. The backdrop to the location is such that moored items will not stand out on the skyline, hence will not be a dominant feature in the landscape. A full LVIA was completed as part of the ES.		





Topic	Potential Effects			
	Installation	Operation		
Local Community and Economy	The previous ES stated that rural employment opportunities are at a premium, any proposal for development at Kishorn could be a significant contributor to the economy of the area. Developments could provide new opportunities for work experience and those wishing to extend their skill sets. The mooring licence continuation would help to maintain these opportunities.			
Traffic & Navigation	The current level of marine vessel traffic will not be compromised during installations and any increase will be temporary. Navigation effects will also be temporary and short-lived.	Use of the moorings will cause very little change to navigation as the level of vessel traffic within Loch Carron should not reach levels which would result in long term significant impacts to current navigational routes.		
Water Quality	The potential effects or changes to Water Quality are discussed in Section 3.3. The risk of contamination is considered as very low with construction operatives being trained in spill plans and supplied with spill kits to ensure any incidents leading to a loss of contaminants are dealt with.			

3.1 Designated Sites

There are several designated sites in the Inner and Outer Hebrides and Loch Kishorn Area which may be relevant to the proposed development area. In the previous ES produced in 2013, the Beinn Bhan and Rassal Special Area of Conservation (SAC) and Site of Specific Scientific Interest (SSSI) were considered. Other designated sites have since been assigned and were identified within the 10km buffer zone of Kishorn Port. These are shown in Table 2 and their qualifying features defined. Drawing 55-03 provides a map showing the locations and the designated sites relative to the proposed works. A description of each of the sites and the reasons why they were or were not taken forward for further consideration are provided in Table 2.

Table 2: Designated Features Relevant to the Proposed Works

Site	Qualifying Features	Taken Forward for Assessment?
Loch Carron MPA	Flame shell beds; Maerl beds	Yes
Lochs Duich, Long and Alsh MPA	Flame shell beds; Burrowed muds	Yes
Inner Hebrides and Minches SAC Harbour porpoise (<i>Phocoena phocoena</i>)		Yes
Beinn Bhan SAC/SSSI	Alpine and subalpine heaths; Dry heaths; Tall herb communities; Wet heathland and cross-leaved heath, Montane acidic grasslands; Acidic scree; Siliceous rocky slopes	No – All terrestrial features which will not be affected by the proposed marine works.
Coille Mhor SAC/SSSI	Western acidic oak woodland; Dragonfly assemblage; Oligotrophic loch	No – All terrestrial features which will not be affected by the proposed marine works.
Carn a' Bhealaich Mhoir SSSI	Moine	No – All terrestrial features which will not be affected by the proposed marine works.





Site	Qualifying Features	Taken Forward for Assessment?
Rassal SAC/SSSI	Alpine and subalpine calcareous grasslands; Base-rich fens; Hard-water springs depositing lime; Limestone pavements; Mountain willow scrub; Plants in crevices on base-rich rocks; Mixed woodland on base-rich soils associated with rocky slopes; Bryophyte assemblage; Lichen assemblage; Flies; Moine; Wood pasture and parkland; Upland assemblage; Upland mixed ash woodland	No – All terrestrial features which will not be affected by the proposed marine works.
Slumbay Island SSSI	Moine	No – All terrestrial features which will not be affected by the proposed marine works and the site is too outwith of the proposed works.
Attadale SSSI Moine		No – All terrestrial features which will not be affected by the proposed marine works and the site is too outwith of the proposed works.
Allt nan Carnan SSSI	Upland birch woodland	No – All terrestrial features which will not be affected by the proposed marine works and the site is too outwith of the proposed works.

Features which were taken forward for assessment as described by Table 2 are discussed in Section 3.2. Other possible implications raised in the original ES have also been taken into consideration in this document, such as the risk that the proposed works pose to otters.

3.2 Biodiversity

3.2.1 Benthic Ecology

The Loch Carron MPA and the Lochs Duich, Long and Alsh MPA are designated for benthic features. The Loch Carron MPA is designated for its high density of flame shell and maerl beds, whilst the Lochs Duich, Long and Alsh MPA are designated for flame shell beds and burrowed muds. Each of these features are not mobile.

In May 2017, Loch Carron was designated as an MPA on an urgent basis in order to aid the recovery of flame shell beds, signifying their sensitivity to disruption (Scottish Natural Heritage, 2019b). Drawing 55/03 displays the mooring areas relative to the Loch Carron MPA. The Loch Carron MPA is located approximately 0.7km (Area 6) and 1.4km (Area 7) from the site of proposed works, with the designated features of flame shell and maerl beds lying approximately ~1.2–3.6 km and ~1.8–2.2km from the site respectively. Thus, they should not be directly affected by the proposed mooring installations. The distance is such that indirect affects due to sedimentation caused by seabed disturbance during mooring installation is





highly unlikely. Changes to water quality could have an effect, but as discussed in Section 3.3, are unlikely.

The Loch Duich, Long and Alsh MPA is deemed too far away (~ 8.9km) from the site of proposed works to be affected for the same reasons as the Loch Carron MPA.

An assessment of impacts on burrowed mud was included in the original ES as a result of its identification as the predominant sublittoral habitat in the approach to Loch Kishorn and the presence of Tall Sea Pen – a nationally scarce species and mud shrimp in the habitat. The ES identified that the mooring area is within an area of burrowed mud habitat and as such has national conservation value due to supporting Tall Sea Pen. The installation of mooring anchor blocks will cause direct loss of habitat, while anchor chains can drag across the seabed potential damaging or destroying Tall Sea Pen it connects with. However it was recognised that the area likely to be affected is small in terms of the total burrowed mud habitat present in the area, as such the resultant impacts are minimal on the overall Tall Sea Pen and burrowed mud habitats in Loch Kishorn (Dalgleish Associates Ltd, 2013).

Overall the effects on benthic ecology associated with installation and operation of the moorings are minor, non-significant.

3.2.2 Marine Mammals

The site of the proposed works lies within the Inner Hebrides and Minches SAC (see Drawing 55-03) designated for the occurrence of harbour porpoise on the west coast of Scotland. Harbour porpoise are considered a mobile feature and are granted protection under the Habitats Directive [Council Directive 92/43/EEC] regardless of their position within or outwith of the SAC.

The Inner Hebrides and Minches SAC offers conservation benefits to the wider marine region by providing protection to ~32% of Scotland's overall harbour porpoise population, the highest density in Scotland (Scottish Natural Heritage, 2019a). Harbour porpoise are seen to be in favourable condition within the SAC and any proposed works within this area must comply with the Conservation Objectives in order to maintain this condition.

Under the conditions of the Conservation Objectives set for the SAC under Regulation 33(2) of the Habitats Directive 1994 (as amended in Scotland), two main pressures relating to the proposed works exist. These may be of detriment to the protected features and are as follows:

- Underwater noise (e.g. acoustic surveys); and
- Death or injury by collision (predominantly in relation to collision with various types of fast-moving vessels from commercial shipping to personal leisure craft and potentially from tidal turbines).

The Inner Sound provides an important migratory corridor for harbour porpoise and is now included within the SAC around the Applecross peninsula, close to Kishorn Port, but no significant effects from the proposed works are expected to occur as identified by the previous ES. The vessels in use throughout construction and during the operations of the mooring installations, are likely to give rise to short-term, temporary increases in engine noise. This would not incur any significant changes to the levels of noise marine mammals in this area are already habituated to and therefore would not cause any significant disturbance.





The likelihood of vessel collisions was also considered in the previous ES but were considered unlikely and do not present any significant impacts. Vessels used for the proposed works will not be travelling at speeds and hence are unlikely to cause death or injury to species (Dalgleish Associates Ltd, 2013). It should also be noted that anchorage and mooring activities were considered unlikely to affect harbour porpoise. Should any sightings of cetaceans occur within the immediate vicinity (<25 m) of operations, the proposed works would expect to be halted if the works pose a risk of death or injury to marine mammals.

A reduction in water quality associated with a pollution event could have direct and indirect effects on marine mammals, however as discussed in Section 3.3 these are highly unlikely.

3.2.3 **Otters**

There have been site-specific surveys carried out between 2005 to 2013, these identified otters to be present in the wider Kishorn area. The latest survey in 2017 focused on the Kishorn Yard planning boundary (13/02272/FUL) and Kishorn Quarry (05/010022/FULRC) this survey identified considerable otter activity on site (Direct Ecology, 2017) particularly on [Redacted] and [Redacted] Otter is a

European Protected Species (EPS) and is protected under the Conservation (Natural Habitats and Species) Regulations 1994 (as amended) in Scotland which transposes into Scottish law from the European Community's Habitats Directive (92/43/EEC). The proposed works however are unlikely to impact upon otter habitats, nor cause significant disturbance.

3.3 Water Quality

This section provides an assessment of effects on water quality associated with the installation and operation of the moorings.

3.3.1 Sedimentation/ Suspended Solids

When the moorings are set onto the seabed there is a potential for disturbance of sediments, similarly the movement of anchor chains on the seabed during operations may disturb sediments. The effect will be very localised, short lived and not spread significantly up the water column, as sediments will drop out rapidly and not become suspended. As, such sediment transport is unlikely. No significant changes to water quality associated with sedimentation are predicted.

3.3.2 Pollution Prevention

Potential pollution sources will be present during the installation of moorings from the vessels and marine plant utilised, these include:

- Fuel oil/diesel; and
- Hydraulic fluids and oils.

Fuel oils and diesels will be required for the vessel and plant carrying out the installation works, there is a potential that plant will need to be refuelled during the works hence, fuel maybe stored on the vessel. A loss of containment of fuel could occur if stores or fuel tanks are damaged or during refuelling operations.

Cranes or alternative plant likely to be utilised during installation works, will utilise hydraulic fluids and oils, hydraulic hoses fail from time to time and as such there is a potential for loss of containment.





The pollution prevention hierarchy will be employed to minimise the risk of a loss of fuel or hydraulic fuel to sea, specific measures include:

- All fuels will be stored in appropriate containers, with secondary containment provided where practicable;
- The volume of fuel stored will be appropriate for the planned works;
- Vessel and plant maintenance will be kept up to date;
- Hydraulic hoses will be check for signs of wear or damage at the start of each shift and replaced when necessary;
- Risk Assessment Method Statements will be in place for refuelling activities, and operators trained in them prior to undertaking refuelling activities;
- Appropriately sized and specified Spill kit available on the vessel; and
- Spill procedure in place, and personnel trained in its implementation.

During operations the pollution risks posed will be determined by the vessel of marine structure utilising the mooring, it is expected that appropriate pollution prevention plans and spill response procedures will be in place. It is noted that there is no additional risk of pollution associated with a vessel/structure being moored than when it is moving, in fact it could be argued that the risks are less due to a secure anchorage facility being provided.

The Ballast Water Management Convention, MARPOL Annex IV and V area applicable, as such impacts on water quality associated with invasive species from ballast water, sewage and garbage disposal are unlikely, and risks will not be increased by the presence of the mooring area.

Taking account of the mitigation identified in line with best practice to minimise installation and operational risks the chance of a pollution incident causing a significant change in water quality is unlikely and as such no significant environmental effect to water quality or ecological receptors are predicted.





4 Policy

This section provides a summary of the General Planning Principles (GENs) set by the Scottish National Marine Plan and applied to the proposed mooring installations to Kishorn Port. The GENs are set out strategic policies for the sustainable development of marine resources and will interact with other planning and consenting processes within the Scottish marine area. Table 3 highlights the GENs that may apply to the determination of the Marine Licence Application for Moorings.

Table 3: Applicable Scottish National Marine Plan GENs

General Planning Principles	Requirements	Kishorn Mooring Areas Considerations
GEN 2: Economic benefits	Sustainable development and use which provides economic benefit to Scottish communities is encouraged when consistent with the objectives and policies of this Plan.	The proposed mooring installations ensures that there is an ability to support multiple industrial sectors with the potential to deliver a significant contribution of related benefits to Scottish communities, should the site be utilised frequently.
GEN 3: Social benefits	Sustainable development and use which provides social benefits is encouraged when consistent with the objectives and policies of this Plan.	Retaining the number of moorings in turn should increase the number of supporting sites for multiple industries and therefore should provide an increase in the number of employment opportunities within the local area.
GEN 4: Co-existence	Proposals which enable coexistence with other development sectors and activities within the Scottish marine area are encouraged in planning and decision-making processes, when consistent with policies and objectives of the Plan.	The main driver of the mooring areas is to allow for multiple industries to co-exist at the port. The current development plans will not impede the present aquaculture industry and port operations in the area.
GEN: 7 Landscape/seascape:	Marine planners and decision makers should ensure that development and use of the marine environment take seascape, landscape and visual impacts into account.	Mooring installations and the associated buoys attached to moorings are common visual sights in seascapes and therefore do not pose any variable impacts on the seascape. Temporary visual impacts may be considered in the form of a moored vessel.
GEN 8: Coastal process and flooding:	Developments and activities in the marine environment should be resilient to coastal change and flooding, and not have unacceptable adverse impact on coastal processes or contribute to coastal flooding.	Mooring installations are being made away from the shoreline in deep water so do not pose any risk to coastal processes and/or flooding.
GEN 9: Natural Heritage	Development and use of the marine environment must:	The moorings do not result in any significant impacts on priority marine features as stated in Section 3: Environmental Assessment and





General Planning Principles	Requirements	Kishorn Mooring Areas Considerations
	(a) Comply with legal requirements for protected areas and	Considerations. The mooring area lies within a protected areas, but no
	protected species.	significant effects are predicted.
	(b) Not result in significant impact on the national status of	
	Priority Marine Features.	
	Protect and, where appropriate, enhance the health of the marine	
	area.	
GEN 10: Invasive	Opportunities to reduce the introduction of invasive non-native	Moorings will be installed into the landscape clean so will not introduce any
Non-Native Species	species to a minimum or proactively improve the practice of	invasive non-native species.
Non Native Species	existing activity should be taken when decisions are being made.	
	Developments and activities should not result in a deterioration of	Mooring installations themselves will not breach any regulations of the
GEN 12: Water	the quality of waters to which the Water Framework Directive,	Water Framework directive (WFD) and the resulting vessels utilising these
Quality and Resource	Marine Strategy Framework Directive or other related Directives	moorings will be adhered to appropriate pollution prevention best practice
	apply.	to avoid effects, as discussed in Section 3.3.
	Development and use in the marine environment should avoid	Mooring installation will not produce any adverse noise impacts.
GEN 13 Noise:	significant adverse effects of man-made noise and vibration,	
	especially on species sensitive to such effects.	
GEN 19: Sound	Decision making in the marine environment will be based on	Supporting information has been provided regarding scientific and socio-
Evidence	sound scientific and socio-economic evidence.	economic evidence to support the application submitted to Marine Scotland
Lviderice		as part of the Marine Licence Application for Moorings.





5 Conclusion

The proposal to extend the mooring licence for two mooring areas in Loch Kishorn will have minimal environmental effects and aligns to the Scottish National Marine Plan's general policies.

6 References

Dalgleish Associates Ltd. (2013). *Kishorn Port Regeneration - Environmental Statement*. Retrieved from https://www2.gov.scot/Resource/0042/00428025.pdf

Direct Ecology. (2017). Otter Survey Report.

Scottish Natural Heritage. (2019a). Conservation Objectives and Advice to Support Management: Inner Hebrides and the Miches SAC. Retrieved from https://sitelink.nature.scot/site/10508

Scottish Natural Heritage. (2019b). Scottish MPA Programme Data Confidence Assessment: Loch Carron MPA. Retrieved from https://sitelink.nature.scot/site/10543

7 Glossary

Acronym	Definition
ES	Environmental Statement
GENs	General Planning Principles (as set out by the Scottish Marine National Plan)
KPL	Kishorn Port Ltd.
km	kilometres
MPA	Marine Protected Areas
NRIP	National Renewables Infrastructure Plan Stage 1
NRIP2	National Renewables Infrastructure Plan Stage 2
рМРА	Proposed Marine Protected Area
SAC	Special Areas of Conservation
SNH	Scottish Natural Heritage
SSSI	Site of Special Scientific Interest
WFD	Water Framework Directive





Appendix 1 Drawings

