

Marine Licence Application for Construction Projects

Version 1.0

Marine (Scotland) Act 2010

Acronyms

Please note the following acronyms referred to in this application form:

BPEO	Best Practicable Environmental Option
EIA	Environmental Impact Assessment
ES	Environmental Statement
MHWS	Mean High Water Springs
MMO	Marine Mammal Observer
MPA	Marine Protected Area
MS-LOT	Marine Scotland – Licensing Operations Team
PAM	Passive Acoustic Monitoring
SAC	Special Area of Conservation
SNH	Scottish Natural Heritage
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
WGS84	World Geodetic System 1984

Explanatory Notes

The following numbered paragraphs correspond to the questions on the application form and are intended to assist in completing the form. These explanatory notes are specific to this application and so you are advised to read these in conjunction with the Marine Scotland Guidance for Marine Licence Applicants document.

1. Applicant Details

The person making the application who will be named as the licensee.

2. Agent Details

Any person acting under contract (or other agreement) on behalf of any party listed as the applicant and having responsibility for the control, management or physical deposit or removal of any substance(s) or object(s).

3. Payment

Indicate payment method. Cheques must be made payable to: The Scottish Government.

Marine licence applications will not be accepted unless accompanied by a cheque for the correct application fee, or if an invoice is requested, until that invoice is settled. Target timelines for determining applications do not begin until the application fee is paid.

4. Application Type

Indicate if the application is for a new construction site or an existing construction site. Provide the existing or previous consent/licence number and expiry date if applicable.

5. Project Details

- (a) Give a brief description of the project (e.g. construction of a new sea outfall).
- (b) Provide the total area of proposed works in square metres.
- (c) Provide the proposed start date of the project. The start date will not be backdated, since to commence a project for which a licence has not been obtained will constitute an offence, which may result in appropriate legal action. A licence is normally valid for the duration of the project but not exceeding 3 years. If a project will not be completed before a marine licence lapses, it will be necessary for licence holders to re-apply for a further licence to continue any ongoing work at least 14 weeks prior to the expiry date of the licence. **Target duration for determination of a marine licence application is 14 weeks.**
- (d) Provide the proposed completion date of the project.
- (e) Provide the cost of the works seawards of the tidal limit of MHWS. This estimate should only cover

work taking place below the tidal level of MHWS and must take into consideration the cost of materials, labour fees etc.

- (f) Describe the location of the proposed works. Include a list of the latitude and longitude co-ordinates (WGS84) of the boundary points of the proposed project. WGS84 is the World Geodetic System 1984 and the reference co-ordinate system used for marine licence applications. Co-ordinates taken from GPS equipment should be set to WGS84. Coordinates taken from recent admiralty charts will be on a WGS84 compatible datum. Ordnance survey maps do not use WGS84. In a few cases, (e.g. laying of long pipelines) it may only be practicable to supply co-ordinates for the start and end points.

Example: For positions read from charts the format should be as in the example: 55°55.555'N 002°22.222'W (WGS84). The decimal point specifies that decimals of minutes are used and the datum is stated explicitly. If seconds are used then the format should be as in the example: 55°55'44"N 2°22'11"W (WGS84).

It is important that the correct positions, in the correct format, are included with this application, as any errors will result in the application being refused or delayed.

To supplement your application, please provide photographs of the project location and submit these with your application. Please also provide a suitably scaled extract of an Ordnance Survey Map (1:2,500 scale but not more than 1:10,000) or Admiralty Chart which must be marked to indicate:

- the full extent of the works in relation to the surrounding area;
- latitude and longitude co-ordinates defining the location of the works;
- the level of MHWS;
- any adjacent SAC, SPA, SSSI, MPA, Ramsar or similar conservation area boundary.

Drawings and plans will be consulted upon. If they are subject to copyright, **it is the responsibility of the applicant to obtain necessary approvals to reproduce the documents and to submit suitably annotated copies with the application.**

Sewer outfalls, discharge pipes for industrial waste etc. The size and description of the pipe must be shown on the longitudinal sections and also details of its supports, foundations, methods of jointing and details of any tidal flaps.

Bridges over tidal waters: An elevation with longitudinal and cross-sections of the bridge to a suitable scale must show the dimensions of the spans and width of piers, etc. above and below MHWS and the maximum and minimum heights of the undersides of the superstructures above MHWS. The headroom above MHWS and the width of span of the nearest bridges, if any, above and below the site must be stated.

Tunnels under tidal waters: The longitudinal section of the tunnel must show the distances between the bed of the river or estuary and the top of the tunnels. Cross-sections must show the internal and external dimensions of the tunnel and particulars of construction. When a proposed future dredging level is known this must also be shown on all sections.

Overhead cables: Catenary must be supplied in addition to the site plan showing the minimum clearance of the cable at MHWS and the electrical clearance allowed.

- (g) Indicate if the project is located within the jurisdiction of a statutory harbour authority and provide details of the statutory harbour authority where relevant.
- (h) Provide a full method statement, including schedule of works and the ultimate fate of the structure.
- (i) Provide assessment of the potential impacts the works may have, including interference with other uses of the sea. Please include details of areas of concern e.g. designated conservation areas, such as a SAC, SPA, SSSI, MPA or Ramsar site and shellfish harvesting areas. Further guidance on designated conservation areas can be obtained from SNH at this website:

<http://gateway.snh.gov.uk/sitelink/index.jsp> and guidance on shellfish harvesting areas can be obtained from <http://www.foodstandards.gov.scot/> with regards to the Shellfish Waters Directive (2006/113/EC) which has parameters set to protect the water quality in which edible shellfish are grown.

Applicants should also be aware of the need to pay due regard to coastal and marine archaeological matters and attention is drawn to Historic Scotland's Operational Policy Paper HP6, "Conserving the Underwater Heritage".

Any application for beach replenishment works must be cross checked as to whether the proposed site is a designated bathing water site. If so, all physical works should ideally be done outwith the Bathing Water Season (1st June to 15th September). Further guidance on the Bathing Waters Directive (2006/7/EC) can be obtained from <http://apps.sepa.org.uk/bathingwaters/>.

Where there are potential impacts from the works, please provide details of proposed mitigation, such as use of MMOs or PAM, in response to potential impacts.

6. Deposits and/or Removals

- (a) Complete the table to indicate all permanent substances or objects to be deposited and/or removed from below MHWS. If you propose using types of substances or objects for which a specific box is not provided in the table, please describe the nature of such substances or objects in the box marked "other".
- (b) Please indicate the method of delivery of any substance(s) or object(s) to be placed below MHWS.
- (c) Where the proposed work involves salt marsh feeding, beach replenishment or land reclamation the description of the substances or objects must include details of its chemical quality. Where the substances or objects have not been chemically analysed, MS-LOT may request representative samples for analysis or require the applicant to arrange for analyses to be undertaken before the marine licence application can be determined.
- (d) If temporary deposits are required, please provide details as with the permanent deposits above. The temporary deposit location details (Latitude and Longitude WGS84) must be added to the form, and the period of time the site will be used must be provided. If granting a licence, MS-LOT will include on the document details of any area that has been approved as a temporary deposit site.

7. Disposal of Dredged Substance(s) or Object(s) at Sea

- (a) If you are proposing to dispose of any excess substance(s) or object(s) arising from the project at sea, a separate marine licence will be required (see Dredging and Sea Disposal application form). The granting of a marine licence for construction projects does not imply that a marine licence for sea disposal will also be granted as different assessment criteria are used to determine each type of application. If a separate application is being submitted for dredging and sea disposal then this must be accompanied with a BPEO report.
- (b) Provide the quantity of dredged substance(s) or object(s) for sea disposal in wet tonnes.

8. Noise Monitoring

Under the Marine Strategy Regulations (2010), there is now a requirement to monitor loud, low to mid frequency (10Hz to 10kHz) impulsive noise. Activities where this type of noise is produced include seismic airguns, other geophysical surveys (<10kHz), pile driving, explosives and certain acoustic deterrent devices. Where noisy activity is being undertaken, you must complete an initial registration form for the noise registry which allows you to provide details on the proposed work. Completion of a 'close-out' form, which allows licensees to provide details of the actual dates and locations where the activities occurred, is also required within 12 weeks of the completion of the 'noisy' activity or, in the case of prolonged activities such as piling for harbour construction or wind farms, at quarterly intervals or after each phase of foundation installation.

These forms can be downloaded from:

<http://www.scotland.gov.uk/Topics/marine/science/MSInteractive/Themes/noise-reduction>

Marine licence applications will not be accepted until this form has been completed and submitted.

9. Statutory Consenting Powers

Please describe in the answer to this question what (if any) statutory responsibilities you (or your client) have to consent any aspect of the project.

10. Scotland's National Marine Plan

Scotland's National Marine Plan has been prepared in accordance with the EU Directive 2014/89/EU, which came into force in July 2014. The Directive introduces a framework for maritime spatial planning and aims to promote the sustainable development of marine areas and the sustainable use of marine resources. It also sets out a number of minimum requirements all of which have been addressed in this plan. In doing so, and in accordance with article 5(3) of the Directive, Marine Scotland have considered a wide range of sectoral uses and activities and have determined how these different objectives are reflected and weighted in the marine plan. Land-sea interactions have also been taken into account as part of the marine planning process. Any applicant for a marine licence should consider their proposals with reference to Scotland's National Marine Plan. A copy of Scotland's National Marine Plan can be found at: <http://www.gov.scot/Publications/2015/03/6517/0>

Indicate whether you have considered the project with reference to Scotland's National Marine Plan and provide details of considerations made with reference to the policies, including but not limited to General Policies 7 and 13 (GEN 7 and GEN 13), that have been considered. If you have not considered the project with reference to Scotland's National Marine Plan please provide an explanation.

11. Pre-Application Consultation

Certain activities will be subject to public pre-application consultation. Activities affected will be large projects with the potential for significant impacts on the environment, local communities and other legitimate uses of the sea. The new requirement will allow those local communities, environmental groups and other interested parties to comment on a proposed development in its early stages – before an application for a marine licence is submitted. Further information can be obtained from: <http://www.scotland.gov.uk/Resource/0043/00439649.pdf>

If applicable, please provide your pre-application consultation report with your application.

12. Consultation (other than carried out under pre-application consultation)

Provide details of all bodies consulted and give details of any consents issued including date of issue.

13. Environmental Assessment

- (a) Under the Marine Works Environmental Impact Assessment (EIA) Regulations 2007, there may be a requirement for certain projects to undergo an EIA and produce an ES. If EIA is required, MS-LOT will not determine a marine licence application until the EIA consent decision in respect of the marine licence application has been reached. Please confirm if the project falls under Annex I or II of Directive 85/337/EEC: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011L0092&from=EN> in relation to the Marine Works (EIA) Regulations 2007.

Marine licence applications for proposals which fall under the regulations will not be accepted unless a screening opinion has been issued in relation to this.

- (b) Please indicate if an EIA has been undertaken and whether it was for the marine licence application to which this application relates or for any other EIA regulator (e.g local authority). Please attach any previous ES to the application.

MS-LOT will not determine a marine licence application until the EIA consent decision in respect of any regulated activity associated with the marine licence application has been reached.

14. Associated Works

Indicate whether the application is associated with any other marine projects (e.g. land reclamation, marine/harbour construction works, dredging and sea disposal etc). If this is the case, provide reference/licence number for the related marine projects.

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It is the responsibility of the applicant to obtain any other consents or authorisations that may be required.

Under Section 54 of the Marine (Scotland) Act 2010, all information contained within and provided in support of this application will be placed on a Public Register. There are no national security grounds for application information not going on the Register under the 2010 Act.

Public Register

Do you consider that any of the information contained within or provided in support of this application should not be disclosed:

- (a) for reasons of national security; YES ☐ NO ☒
- (b) for reasons of confidentiality of commercial or industrial information where such confidentiality is provided by law to protect a legitimate commercial interest? YES ☐ NO ☒

If **YES**, to either (a) or (b), please provide full justification as to why all or part of the information you have provided should be withheld.

N/A

WARNING

It is an offence under the Act under which this application is made to fail to disclose information or to provide false or misleading information.

Target duration for determination is 14 weeks. Please note that missing or erroneous information in your application and complications resulting from consultation may result in the application being refused or delayed.

Marine licence applications will not be accepted unless accompanied by a cheque for the correct application fee, or if an invoice is requested, until that invoice is settled. Target timelines for determining applications do not begin until the application fee is paid.

Declaration

I declare to the best of my knowledge and belief that the information given in this form and related papers is true.

Signature [Redacted]

Date

10th June 2024

Name in BLOCK LETTERS

NICKY HUFSTETLER ON BEHALF OF SCOTTISH HYDRO ELECTRIC POWER DISTRIBUTION PLC

Application Check List

Please check that you provide all relevant information in support of your application, including but not limited to the following:

- Completed and signed application form ☒
- Project Drawings ☒
- Maps/Charts ☒
- Co-ordinates of the boundary points of the area of harbour jurisdiction (if you are a statutory harbour authority) ☐
- Method Statement ☒
- Photographs of the location of the project ☐
- Additional information e.g. consultation correspondence (if applicable) ☒
- Noise Registry – Initial Registration Form (if applicable) ☐
- Pre-application Report (if applicable) ☐
- Environmental Statement (if applicable) ☒
- Payment (if paying by cheque) ☐

1. Applicant Details

Title: **Mr**

Initials: **N**

Surname: **Hufstetler**

Trading Title (if appropriate):

Address: Scottish and Southern Electricity Networks
Inveralmond House
200 Dunkeld Road
Perth PH1 3AQ

Name of contact (if different):

Telephone No. (inc. dialing code): [Redacted]

Email: **submarinecablesproject@sse.com**

Statutory Harbour Authority? YES ☐ NO ☒

If **YES**, please provide a list of the latitude and longitude co-ordinates (WGS84) of the boundary points of the area of harbour jurisdiction using Appendix 01 Additional Co-ordinates form if necessary.

2. Agent Details (if any)

Title:

Initials:

Surname:

Trading Title (if appropriate):

Address:

Name of contact (if different):

Telephone No. (inc. dialing code):

Email:

3. Payment

Enclosed Cheque ☐

Invoice ☒

Contact and address to send invoice to:

Applicant ☒

Agent ☐

Other ☐

If **OTHER**, please provide contact details:

Title:

Initials:

Surname:

Address:

Email:

4. Application Type

Is this application for a new construction site or an existing construction site:

New Site ☒ Existing Site ☐

If an **EXISTING SITE**, please provide the consent/licence number and expiry date:

Consent/Licence Number	Expiry Date
The installation will be for a new cable at a site that is adjacent to the existing faulted cable.	

5. Project Details

(a) Brief description of the project (e.g. construction of a new sea outfall):

Installation of a 11 kV subsea cable and associated cable protection between Mainland Shetland and Papa Stour. Removal of existing Out of Service cable sections where required.

(b) Total area of the proposed works (in square metres):

Cable corridor 1,700,000 m²

(c) Proposed start date (**Target duration for determination of a marine licence application is 14 weeks**):

16/08/24

(d) Proposed completion date:

31/10/25

(e) Cost of the works seawards of the tidal limit of MHWS:
[Redacted]

(f) Location:

Kirk Sand, Papa Stour to Melby, Mainland Shetland

See appended table for coordinates.

Latitude and Longitude co-ordinates (WGS84) defining the extent of the project (continue on Appendix 01 Additional Co-ordinates form if necessary):

Latitude											Longitude									
		°			.				' N					°			.			' W
		°			.				' N				°			.			' W	
		°			.				' N				°			.			' W	
		°			.				' N				°			.			' W	
		°			.				' N				°			.			' W	
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		°			.				' N				°			.			' W	
		°			.				' N				°			.			' W	
		°			.				' N				°			.			' W	
		°			.				' N				°			.			' W	

(g) Is the project located within the jurisdiction of a statutory harbour authority? YES ☐ NO ☒

If **YES**, please specify statutory harbour authority:

(h) Method statement including schedule of work (continue on separate sheet if necessary):

Please refer to Xodus Reference Document A-200682-S03-A-REPT-001 Mainland Shetland - Papa Stour Emergency Cable Replacement Project Description.

(i) Potential impacts the works may have (including details of areas of concern e.g designated conservation and shellfish harvesting areas) and proposed mitigation in response to potential impacts (continue on separate sheet if necessary):

Please see Xodus Reference Document A-200682-S03-A-ESIA-001 Mainland Shetland - Papa Stour Emergency Cable Replacement Marine Environmental Appraisal for the full impact assessment.

6. Deposits and/or Removals

(a) **Permanent** substance(s) or object(s) to be deposited and/or removed from below MHWS (continue on a separate sheet if necessary):

See Appended Table

Type of Deposit/Removal	Deposits		Removals	
	Description	Quantity & Dimensions (metric)	Description	Quantity & Dimensions (metric)
Steel/Iron		No.		No.
		Dimensions		Dimensions
		Weight (kg/tonnes)		Weight (kg/tonnes)
Timber		No.		No.
		Dimensions		Dimensions
		Weight (kg/tonnes)		Weight (kg/tonnes)
Concrete		No.		No.
		Dimensions		Dimensions
		Weight (kg/tonnes)		Weight (kg/tonnes)
Plastic/Synthetic		m ²		m ²
Clay (< 0.004 mm)		Volume (m ³)		Volume (m ³)
		Weight (kg/tonnes)		Weight (kg/tonnes)
Silt ($0.004 \leq \text{Silt} < 0.063$ mm)		Volume (m ³)		Volume (m ³)
		Weight (kg/tonnes)		Weight (kg/tonnes)
Sand ($0.063 \leq \text{Sand} < 2.0$ mm)		Volume (m ³)		Volume (m ³)
		Weight (kg/tonnes)		Weight (kg/tonnes)
Gravel ($2.00 \leq \text{Gravel} < 64.0$ mm)		Volume (m ³)		Volume (m ³)
		Weight (kg/tonnes)		Weight (kg/tonnes)
Cobbles ($64.0 \leq \text{Cobbles} < 256.0$ mm)		Volume (m ³)		Volume (m ³)
		Weight (kg/tonnes)		Weight (kg/tonnes)
Boulders (≥ 256.0 mm)		Volume (m ³)		Volume (m ³)
		Weight (kg/tonnes)		Weight (kg/tonnes)

Pipe		Length (m)		Length (m)
		External Diameter (cm/m)		External Diameter (cm/m)
Other (please describe below):				

(b) Method of delivery of substance(s) or object(s):

Please refer to Xodus Reference Document A-200682-S03-A-REPT-001 Mainland Shetland - Papa Stour Emergency Cable Replacement Project Description.

(c) For work involving salt marsh feeding, beach replenishment or land reclamation please provide the following information relating to the substance(s) or object(s) to be deposited:

Quantity (tonnes):

N/A tonnes

Nature of substance(s) or object(s) (e.g. sand, silt, gravel etc.):

N/A

Source (if sea dredged state location of origin)

N/A

Particle size:

N/A

Have the substance(s) or object(s) been chemically analysed?
If YES, please include the analysis data with your application

YES ☐ NO ☒

(d) **Temporary** substance(s) or object(s) to be deposited below MHWS (continue on a separate sheet if necessary):

Type of Deposit	Description	Quantity & Dimensions (metric)
Steel/Iron		No.
		Dimensions
		Weight (kg/tonnes)
Timber		No.
		Dimensions
		Weight (kg/tonnes)

Concrete		No.
		Dimensions
		Weight (kg/tonnes)
Plastic/Synthetic		m ²
Clay (< 0.004 mm)		Volume (m ³)
		Weight (kg/tonnes)
Silt ($0.004 \leq \text{Silt} < 0.063$ mm)		Volume (m ³)
		Weight (kg/tonnes)
Sand ($0.063 \leq \text{Sand} < 2.0$ mm)		Volume (m ³)
		Weight (kg/tonnes)
Gravel ($2.00 \leq \text{Gravel} < 64.0$ mm)		Volume (m ³)
		Weight (kg/tonnes)
Cobbles ($64.0 \leq \text{Cobbles} < 256.0$ mm)		Volume (m ³)
		Weight (kg/tonnes)
Boulders (≥ 256.0 mm)		Volume (m ³)
		Weight (kg/tonnes)
Pipe		Length (m)
		External Diameter (cm/m)
Other (please describe below):		

7. Disposal of Dredged Substance(s) or Object(s) at Sea

(a) Do you intend to apply for a marine licence for sea disposal of dredged substance(s) or object(s) as part of the project?

YES ☐ NO ☒

If **YES**, please specify nature of substance(s) or object(s) (e.g sand, gravel, silt, clay, rock etc.):

(b) Quantity of substance(s) or object(s) (wet tonnes):

N/A wet tonnes

A separate marine licence application will be required to be submitted for sea disposal.

8. Noise Monitoring

Will loud, low to mid frequency (10Hz to 10kHz) impulsive noise be produced by the project?

YES ☐ NO ☒

If **YES**, which please indicate the noise generating activities and sound frequencies:

Noise Generating Activity	Sound Frequency (Hertz)
Use of Explosives	
Use of Acoustic Deterrent Devices	
Piling	
Other (please describe below):	

If you have ticked **YES**, please complete the Noise Registry – Initial Registration form located at:
<http://www.scotland.gov.uk/Topics/marine/science/MSInteractive/Themes/noise-reduction>

Marine licence applications will not be accepted until this form has been completed and submitted.

9. Statutory Consenting Powers

Do you, or (if appropriate) your client, have statutory powers to consent any aspect of this project?

No

10. Scotland's National Marine Plan

Have you considered the application with reference to Scotland's National Marine Plan?

YES ☒ NO ☐

If **YES**, provide details of considerations made with reference to the policies, including but not limited to General Policies 7 and 13 (GEN 7 and GEN 13), that have been considered:

Please see Section 2: Legislative Context of Xodus Reference Document A-200682-S03-A-ESIA-001 Mainland Shetland - Papa Stour Emergency Cable Replacement Marine Environmental Appraisal for more information.

If **NO**, please provide an explanation of why you haven't considered the National Marine Plan?

11. Pre-Application Consultation

Is the application subject to pre-application consultation, under The Marine Licensing (Pre-application Consultation) (Scotland) Regulations 2013?

YES ☐ NO ☒

If **YES**, please indicate the date of the public notice for the pre-application consultation event and the type of consultation event held (a copy of the public notice must be supplied with this application):

Event Type	Date
MD-LOT confirmed no PAC required 03/06/24. Please see file entitled "MD-LOT re Mainland Shetland - Papa Stour PAC requirement".	

12. Consultation

List all bodies you have consulted and provide copies of correspondence:

The following stakeholders have been notified of the cable fault and planned installation of a new cable but no copies of the correspondence are provided.
Shetland Islands Council (SIC)
Shetland Fishermen's Association (SFA)
Shetland Shellfish Management Organisation (SSMO)
Maritime and Coastguard Agency (MCA)
Scottish Fishermen's Federation (SFF)
Scottish White Fish Producers Association (SWFPA)
Ross, Skye, Sutherland and Lochalsh Fishermen's Association
RSPB
NatureScot
National Trust Scotland (NTS)
Marine Directorate
Northern Lighthouse Board (NLB)
Historic Environment Scotland (HES)

13. Environmental Assessment

(a) Does the project fall under Annex I or II of the EIA Directive?

Annex I ☐ Annex II ☐ Neither ☒

If **ANNEX I** or **ANNEX II**, please provide the screening opinion issued to you in relation to the project.

(b) Has an EIA been undertaken:

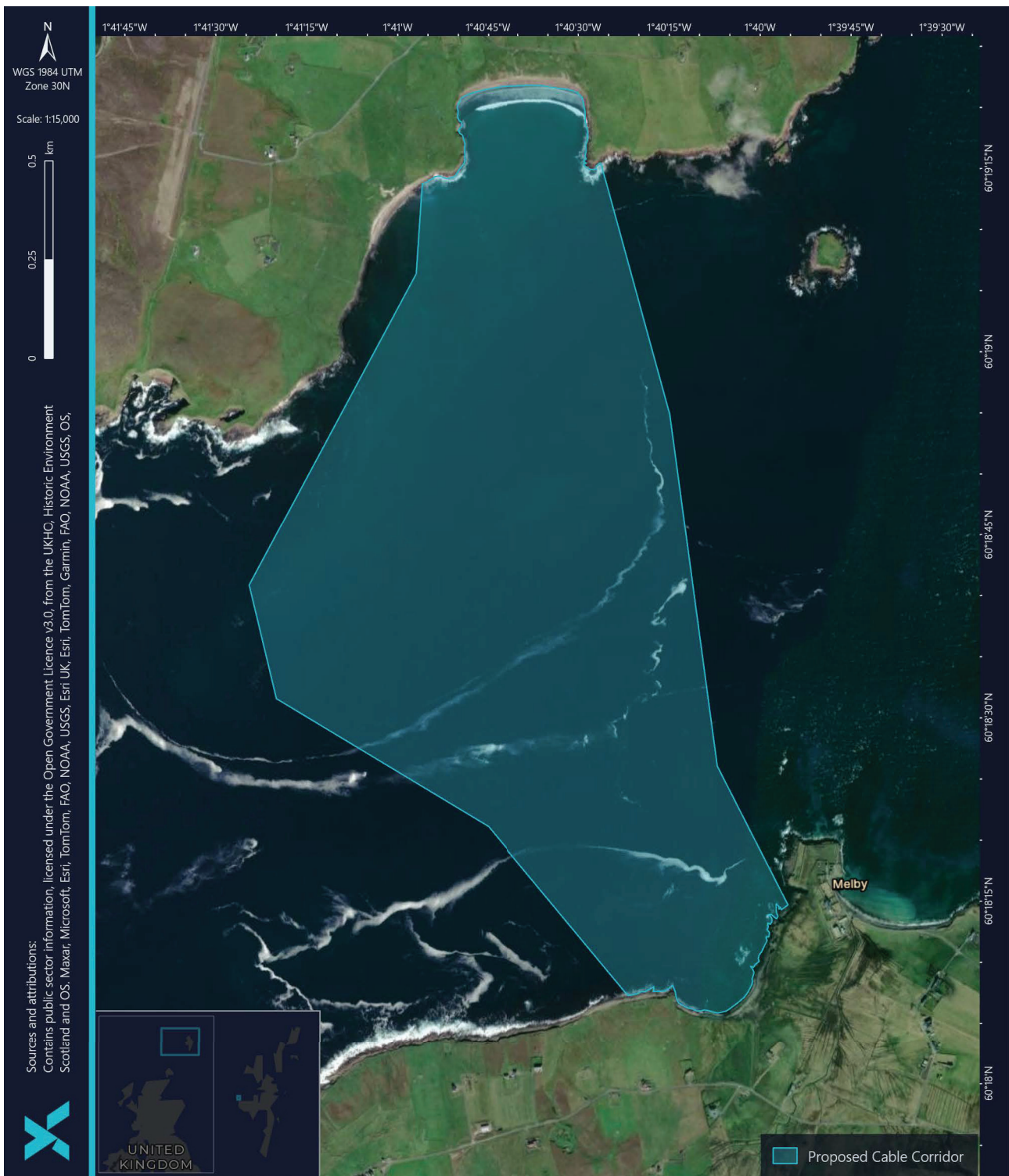
for the marine licence application to which this application relates
for any other EIA regulator (e.g local authority)

YES ☐ NO ☒
YES ☐ NO ☒

14. Associated Works

Provide details of other related marine projects, including reference/licence numbers (if applicable):

There are currently no related marine projects. A European Protected Species licence application has been made.



Document details: (\\vodus.local\auroral\Assignments\A200562\503\Working Files\GIS\Output\01_Paper\SourceFigures\A200562_503_PaperSource.aprx, 01, P-51055-123, Timothy Heggen, 09/05/2024)

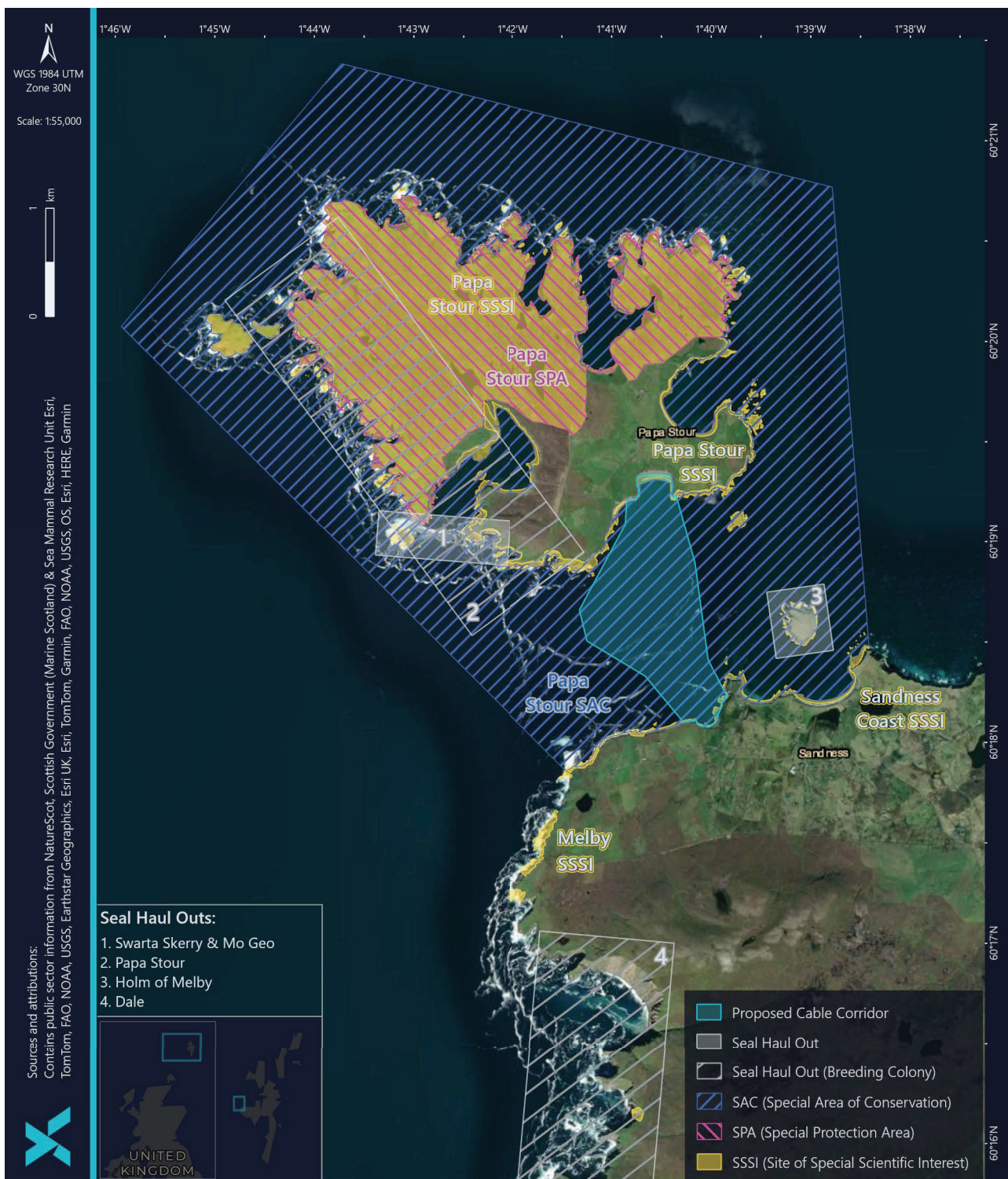




Table 1 Mainland Shetland - Papa Stour Emergency Cable Replacement coordinates for the proposed cable corridor (MHWS to MHWS) (WGS84) in Degrees, Minutes and Seconds (DMS), Degrees and Decimal Minutes (DDM) and Decimal Degrees (DD).

LATITUDE DMS	LONGITUDE DMS	LATITUDE DDM	LONGITUDE DDM	LATITUDE DD	LONGITUDE DD
60° 19' 16" N	1° 40' 29" W	60° 19.268' N	1° 40.486' W	60.321134	-1.674767
60° 19' 16" N	1° 40' 26" W	60° 19.267' N	1° 40.445' W	60.321132	-1.674084
60° 18' 55" N	1° 40' 16" W	60° 18.923' N	1° 40.269' W	60.315387	-1.67116
60° 18' 26" N	1° 40' 90" W	60° 18.441' N	1° 40.158' W	60.307359	-1.669308
60° 18' 15" N	1° 39' 58" W	60° 18.250' N	1° 39.971' W	60.304173	-1.666198
60° 18' 60" N	1° 40' 10" W	60° 18.104' N	1° 40.170' W	60.30175	-1.669508
60° 18' 70" N	1° 40' 25" W	60° 18.131' N	1° 40.416' W	60.302185	-1.673613
60° 18' 21" N	1° 40' 47" W	60° 18.365' N	1° 40.793' W	60.306092	-1.679889
60° 18' 32" N	1° 41' 22" W	60° 18.545' N	1° 41.369' W	60.309094	-1.689496
60° 18' 42" N	1° 41' 26" W	60° 18.701' N	1° 41.438' W	60.311689	-1.69064
60° 19' 7" N	1° 40' 57" W	60° 19.121' N	1° 40.962' W	60.318699	-1.682703
60° 19' 14" N	1° 40' 56" W	60° 19.244' N	1° 40.940' W	60.320736	-1.682346
60° 19' 16" N	1° 40' 49" W	60° 19.271' N	1° 40.824' W	60.32119	-1.680408
60° 19' 21" N	1° 40' 49" W	60° 19.359' N	1° 40.830' W	60.322653	-1.680504
60° 19' 21" N	1° 40' 30" W	60° 19.364' N	1° 40.505' W	60.322743	-1.675088



Table 2 Materials used in installation or removed from the seabed during the Mainland Shetland – Papa Stour Emergency Cable Replacement

INSTALLATION MATERIALS			REMOVALS	
Type of Deposit / Removal	Description	Quantity and Dimensions (metric)	Description	Quantity & Dimensions (metric)
Submarine Cable	HVAC power cable. Three core design with copper round compacted stranded conductors, XLPE insulation, copper laminated tape and polyethylene outer sheath, including integrated FO cable.	1 No.	HVAC power cable. Three core design with copper conductors, EPR insulation, and polyethylene outer sheath.	N/A
		Dimensions: • Diameter: 103 mm; and • Length: 3637 m. Weight: 19.8 kg/m		
Earthing wire	Copper wire for earthing.	4 No.	Existing cables in the nearshore at both ends (two cables), as well as potential removal of offshore sections to allow the new cable to cross the route	N/A
		Dimensions: • Diameter: 11 mm; and • Total Length: 700 m.		



INSTALLATION MATERIALS

REMOVALS

Weight: 0.591 kg/m

Cast Iron Split Pipe	Articulated cast iron shell design that interlocks around the cable and is fixed with bolted end clamps.	No.	N/A	N/A
		Dimensions:		
		• Diameter: 213 mm; • Length of each shell: 333 mm; and • Total Length: 1200 m.		
		Weight: 39.84 kg/m		
Concrete Mattresses	Concrete mattresses may be required to stabilise the cable.	No. 69	N/A	N/A
		Dimensions:		
		• Width: 3 m; • Length: 6 m; and • Height: 0.3 m.		



INSTALLATION MATERIALS			REMOVALS
Weight: 8.52 tonnes each			
2 t Rock Bags	Rock bags may be required to stabilise the cable.	No. 194	N/A
	Dimensions:		
	• Diameter: ~1.9 m; and • Height: ~ 0.4 m. Weight: ~2 tonnes each		
4 t Rock Bags	Rock bags may be required to stabilise the cable.	No. 22	N/A
	Dimensions:		
	• Diameter: 2.4 m; and • Height: 0.6 m. Weight: 4 tonnes each		
8 t Rock Bags	Rock bags may be required to stabilise the cable.	No. 30	N/A
	Dimensions:		
	• Diameter: ~3.0 m; and		



INSTALLATION MATERIALS		REMOVALS	
• Height: ~0.7 m. Weight: 8 tonnes each			
Clump Weight	Concrete clump weight for earthing wires and any remaining ends of removed sections of cable.	No. 20	N/A
		Dimensions:	
		• Diameter: 1 m; and • Height: 0.5 m. Weight: Up to 60 kg each	N/A
Rock Anchors	Stainless steel threaded rod, plus bolt fixing and marine grade resin.	No. 20	N/A
		Dimensions:	
		• Diameter: ~0.02 m; and • Length: 0.3 m. Weight: 2 kg each	N/A
Fine Sand	Initial infill around cable for intertidal trench	Weight: 25 t	N/A