

CONSENTING GUIDANCE FOR DEVELOPERS AT THE EMEC FALL OF WARNESS TEST SITE

January 2015



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Important preliminary note – Disclaimer

These guidelines have been developed to assist developers intending to test marine energy conversion devices at EMEC. For developments of 1 MW or less, these guidelines, which have been agreed with Marine Scotland and Scottish Natural Heritage, should be used in the production of all documentation in support of licence applications. Developers wishing to test devices or arrays >1MW will also require formal Environmental Impact Assessment (EIA)¹. These developers should also refer to the Marine Scotland guidance available at: <http://www.scotland.gov.uk/Topics/marine/Licensing/marine/LicensingManual> which provides specific guidance on the EIA process for wave and tidal developments.

The purpose of these guidelines is to explain the assisted process at EMEC, the range of consent-related documentation available to developers, and to encourage and assist developers to consider as fully as possible the range and scale of risks and impacts that might result from the testing of their device(s) at EMEC.

The guidelines reflect EMEC's understanding of the relevant legislation and procedures and whilst we make every effort to ensure the accuracy and reliability of the information, it is not guaranteed and EMEC will not be responsible for any errors or omissions. In particular, EMEC will not be liable for any loss, however arising, from the use of, or reliance on these guidelines. The guidelines should not be relied on as a substitute for formal advice where appropriate. It is the responsibility of individual developers to ensure that their devices and all operations that they carry out are fully compliant with all current legislative requirements.

Over time, this document is likely to be revised to reflect the growing knowledge and experience in marine energy conversion devices and environmental interactions. Developers must ensure that they refer to the most up to date version which will be available on the EMEC website (<http://www.emec.org.uk>).

This document should be used in conjunction with the EMEC document *Marine Operating Guidelines for Operations at EMEC Wave and Test sites GUIDE010-01*.

¹ EMEC is currently (December 2014) in the process of applying for site-wide Section 36 consent for the Fall of Warness test site, and any developers interested in testing a device with maximum rated output >1MW should speak to EMEC directly in the first instance.
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1 Introduction

The European Marine Energy Centre (EMEC) is the first centre of its kind in the world and one of the leading organisations in the testing of commercial scale wave and tidal energy technologies. As such, we recognise the importance of establishing high standards of safety and environmental protection and an early understanding of the range and significance of potential environmental and navigational impacts. EMEC operates an Integrated Management System (IMS) that demonstrates a clear commitment to high standards of quality, health, safety and environmental (QHSE) management. We aim to encourage those involved in the developing marine energy industry to fully consider safety and environmental risks of projects/technologies in the early stages of design and development, thereby encouraging best practice to be carried forward into commercial scale developments.

This document provides information and guidance on the environmental and navigational safety considerations required and the licence application process for developers wishing to deploy a device at the EMEC Fall of Warness test site with maximum power output of less than or equal to 1MW.

1.1 Background and Context

EMEC has in place Crown Estate leases covering the marine test sites, together with planning consents for substations and associated lay-down areas.

Developers have full and sole responsibility for obtaining any consent² required for the installation and operation of their device(s) at the Fall of Warness test site (including any land planning consents that may be required).

In order to introduce efficiencies into the consenting process, EMEC has worked closely with Marine Scotland and the key statutory stakeholders to capture as much as possible of the 'generic' information pertaining to navigational safety and environmental risks at the EMEC test sites, and has undertaken site-wide risk assessments in both areas. These are available to developers and form the basis of all licence and consents applications. Section 1.5 provides more information about this documentation.

As part of this process, EMEC has also defined a 'project envelope' describing the types and characteristics of marine energy converter systems (MECS) likely to be deployed at the EMEC test site, together with the types of marine operations and activities likely to be associated with their installation, operation and maintenance. The project envelope has been prepared by EMEC using its experience of the parameters associated with existing deployments at EMEC, together with those emerging elsewhere. Section 3 of this document provides further information about the project envelope.

² EMEC is currently (December 2014) in the process of applying for site-wide Section 36 consent for the Fall of Warness test site, and once this is in place individual developers will not be required to apply for their own Section 36 consent.
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1.2 Legislative and Consent Requirements

Legislation relevant to marine renewables can be found in the *Draft Marine Licensing Manual* published by the Scottish Government, available at:

<http://www.scotland.gov.uk/Topics/marine/Licensing/marine/LicensingManual>.

1.3 Assessment of Potential Risks

EMEC has initiated risk assessments for the whole of the Fall of Warness test site. These site-wide risk assessments aim to identify potential risks that are expected to potentially apply to the range of deployments anticipated at the site, as captured and expressed in the project envelope.

These risk assessments are used to support any application for a Marine Licence or Section 36 consent for deployment at any of the berths at the Fall of Warness. They are supplemented by project-specific annexes produced by the developer, as described in Section 1.6 of this document.

1.3.1 Environmental Risk Assessment

An Environmental Appraisal has been carried out by Scottish Natural Heritage (SNH) for deployments at the Fall of Warness test site, based on anticipated deployment activities and parameters as described in the project envelope. This appraisal constitutes a HRA/AA for the whole site, and supports any application for a Marine Licence or Section 36 consent for deployment at the Fall of Warness. Provided that a project falls within the parameters set out in the project envelope, it will be considered as pre-appraised in terms of its environmental impacts and no further environmental appraisal by Marine Scotland will be required. Projects falling out-with the envelope may require additional appraisal and/or consultation, and further advice should be sought from EMEC in the first instance.

1.3.2 Navigational Risk Assessment

EMEC has undertaken a site-wide Navigational Risk Assessment (NRA) for the Fall of Warness. This NRA describes the potential navigational risks and mitigation measures associated with deployment of a range of types of tidal energy devices in relation to the specific site, taking into account the latest guidance and experience available, including the Maritime Coastguard Agency's Marine Guidance Notice 371 (*Offshore Renewable Energy Installations – Guidance on UK Navigational Practice, Safety and Emergency Response Issues*). EMEC undertakes regular Vessel Traffic Surveys to assess the currency of the data used for the NRA.

1.4 Activities Out-with EMEC Test Sites

EMEC does not have responsibility for offsite activities undertaken by developers. However developers are strongly encouraged to fully consider the impacts associated with their activities out-with the EMEC test areas and to promote high standards in all aspects of their operation. Appendix 1 of this document indicates the types of activities that should be considered. EMEC would encourage developers to consult with relevant stakeholders where appropriate, and is happy to facilitate and aid these discussions.

1.5 Process and Timing

EMEC uses the following terminology when referring to the different stages of the licence application and planning process.

Initial Project Information

In order to assess the feasibility of a project for testing at the Fall of Warness test site, EMEC requires developers to submit high level information of their project prior to commencing contract negotiations. This should briefly describe the project and include full device and mooring details (including construction materials), deployment methods, installation and decommissioning timeline and key milestone dates as known. EMEC will discuss the project details with Marine Scotland, to ascertain whether or not the proposal falls within the project envelope for the test site.

If the proposal is deemed to fall out-with the project envelope, EMEC will facilitate further discussion with Marine Scotland regarding additional project-specific appraisal requirements. Even if a proposal falls within the project envelope, a meeting with Marine Scotland may still be required (e.g. to clarify aspects of the proposal).

At this stage EMEC encourages developers to meet with appropriate targeted stakeholders, with whom EMEC regularly engages. EMEC is happy to facilitate and assist in these meetings, and can utilise its experience of past discussions with the stakeholders in relation to any concerns that may be raised. This helps to ensure that a consistent approach is taken with each developer to any issues raised, and that all other relevant potential developments (of which an individual developer may be unaware) are taken into account.

Marine Licence Application

This is the process by which a developer applies to the Regulator (Marine Scotland) for a Marine Licence to deploy a device at EMEC. Developers use the Environmental Appraisal and Navigational Risk Assessment documentation described in Section 1.3 as the basis for their own project-specific risk assessments. These documents are submitted by developers in support of their licence application.

The Marine Licence application should be accompanied by a Project Information Summary (see Section 2), any additional project-specific impact appraisals which may be required³ (as advised by Marine Scotland), a Project-specific Environmental Monitoring Programme (PEMP), a project-specific Navigational Risk Assessment (NRA), and a Third Party Verification (TPV) report that verifies the suitability of the device and its moorings for deployment at the EMEC test site.

The turnaround time for processing Marine Licence applications, from receipt of completed application form and supporting documentation to issue of a licence, is typically about 3 months (assuming that the project falls within the defined project envelope and all submitted documentation is in order), although this period is significantly shorter for projects that fall within the project envelope. The consenting process for the Fall of Warness test site is shown as a flow chart in Figure 1 below (please note that timescales shown for each stage are indicative and will depend on individual projects). It is important that developers are aware that late submission of their Marine Licence application may lead to delays in installation.

³ If the project falls out-with the project envelope, Marine Scotland may possibly require developers to undertake further impact appraisal. Consenting Guidance for Developers at the EMEC Fall of Warness Test Site GUIDE036-01-01 20150112
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For projects with a device power output >1MW, consent under Section 36 of the Electricity Act 1989 is required in addition to a Marine Licence. This involves submission of a full EIA by the applicant. At the time of writing, EMEC is in the process of obtaining a site-wide Section 36 consent for the whole site, so developers intending to generate >1MW are advised to speak to EMEC directly to discuss the status of this application.

Full details of the process for Marine Licensing in Scotland can be found on the Marine Scotland website (<http://www.scotland.gov.uk/Topics/marine/Licensing/marine>).

1.6 Other Supporting Documentation

In addition to the site-wide risk assessments (see Sections 1.3.1 and 1.3.2), the following supporting documentation should also accompany the Marine Licence application.

Project-specific Environmental Monitoring Programme (PEMP)

All developers are required to submit a (draft) PEMP as part of their Marine Licence application. This is essentially a project-specific annex to the Environmental Appraisal, in which developers propose methods for monitoring their device in respect of the issues of concern identified in the main document. The framework and principles of the PEMP should be agreed with the Regulator, and commitments made therein are very likely to be incorporated into licence conditions (see also Section 3.3).

Navigational Risk Assessment (NRA)

Developers are also required to submit a project-specific NRA in support of their Marine Licence application. This NRA should be based on the EMEC Fall of Warness site NRA described in Section 1.3.2, which is available to all EMEC developers, and should form an annex to it. This project-specific annex should incorporate all aspects of MGN 371 (Marine Guidance Notes, produced by the MCA: please check online for the latest version). The water depth and overall height from the seabed of the proposed device should also be considered in the NRA, to demonstrate that the developer can ensure adequate under keel clearance at Lowest Astronomical Tide (LAT). Where appropriate, developers should also take account of MGN 372 and IALA Recommendations O-139 (International Association of Marine Aids to Navigation and Lighthouse Authorities) regarding marking and lighting of their devices.

Third Party Verification (TPV)

Developers are required by the Regulator and its statutory consultees to produce an independent structural verification report for their device. It is also a requirement stated within the EMEC-Developer Agreement that a report be provided which verifies the integrity of the structural design of the device and its foundation, including any moorings, for the conditions likely to be experienced at the site. The report must be provided by an independent body with sufficient experience, standing, and reputation.

Decommissioning Programme

Decommissioning of devices capable of generating power is governed by the Energy Act (2004). Responsibility for decommissioning under the Energy Act has not been devolved to the Scottish Government and thus lies with the UK Department of Energy and Climate Change (DECC). When a developer has been granted a Marine Licence to test at EMEC, a Notice to Decommission is issued by DECC to the project developer. This places a requirement on the developer to produce a

Decommissioning Programme. DECC⁴ has produced a standard set of guidelines for the preparation of this document, available from the DECC website at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/80786/orei_guide.pdf.

The Decommissioning Programme is submitted for two rounds of consultation. The first is for 30 days around a range of stakeholders specified by DECC, and EMEC can assist with this. Following the incorporation of any feedback, the Decommissioning Programme is then submitted to DECC for a second 30 day circulation around Whitehall before finally being submitted to the Secretary of State for approval. During this second consultation stage the developer is likely to have to produce evidence independently to DECC, showing their ability to finance the decommissioning of the proposed project.

DECC recognises that, through the course of testing prototype devices, changes may arise to the Decommissioning Programme and developers are required to notified them of any significant alterations prior to commencing decommissioning operations. EMEC is in continuing discussion with DECC on this process and will be able to update developers as to any streamlined approaches available.

⁴ EMEC is currently (January 2015) in discussion with DECC about potentially introducing efficiencies to decommissioning at EMEC sites.

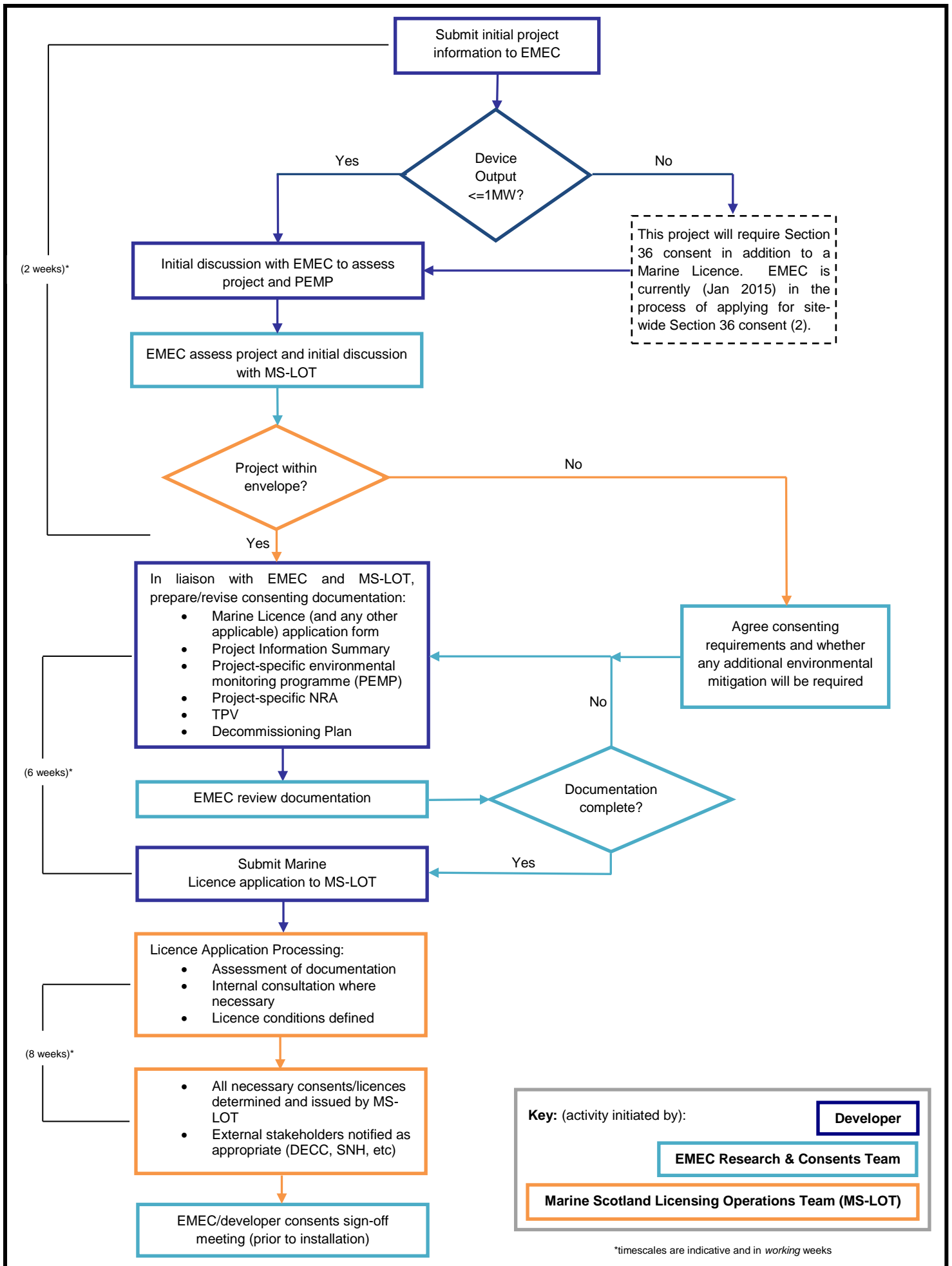


Figure 1: Consenting process for the EMEC Fall of Warness test site

2 Project Information Summary

2.1 Introduction

The Project Information Summary should be submitted to EMEC soon after contract signing. EMEC will review the document and advise any amendments required before submitting to the Regulator in support of the Marine Licence application.

2.2 Content of the Project Information Summary

The Project Information Summary should be around 10 pages in length and provide brief details of the proposed project, organised in the following sections:

- **Introduction** (no more than one page giving a brief background to the company, the technology, and the project plan; should include brief details of any testing undertaken to date)
- **Device Description** (three to four pages, including any relevant diagrams/photos, details of scale of device, dimensions, position in water column, nominal power rating, how the device works, description of moorings, and list of materials to be used in construction of device & moorings)
- **Project Description** (no more than three pages, including any relevant diagrams, details of deployment location, installation method, device monitoring systems to be used, and proposed decommissioning/removal method)
- **Environmental & Navigational Risk Considerations** (one or two pages providing a brief summary of any potential environmental and navigational issues identified and proposed mitigation; should make reference to project-specific PEMP and project-specific NRA documents)
- **Proposed Timescales** (provide details of proposed installation and maintenance, testing, and decommissioning schedule together with key project dates; can be provided as a Gantt chart)

3 Environmental Appraisal and the Project Envelope Description

3.1 Introduction

An Environmental Appraisal for the Fall of Warness test site has been undertaken by SNH to assist both EMEC and Marine Scotland in streamlining the appraisal process required to support the Marine Licence application for deployments at EMEC. To this end, the Environmental Appraisal aims to pre-appraise potential deployments within the context of the wider test site using an EMEC project envelope description. This project envelope describes the types and characteristics of Marine Energy Converter Systems (MECS) likely to be deployed for testing at the Fall of Warness site. It also describes the types of marine operations and other activities likely to be associated with the installation, operation and maintenance of these devices.

The Environmental Appraisal document does not remove the requirement for each developer to apply for an individual Marine Licence, rather it is provided to help inform the assessment process. Consequently, most potential impacts from the installation, operation and maintenance of anticipated types of tidal turbine devices at the Fall of Warness test site have been appraised and conclusions reached, provided the proposal fits within the project envelope. The Environmental Appraisal document contains comprehensive receptor appraisals that satisfy the requirements of legislation relating to designated sites and protected species. Some potential effect pathways may require project-specific appraisal, depending on their relevance to the proposal, and therefore developers should ensure that they are familiar with this documentation. The appraisal process has also identified potential mitigation and / or monitoring requirements and suggestions, to be used in the formation of a PEMP (as described in Section 1.6).

It is the initial responsibility of the developer to ensure that their proposal fits within the project envelope description. If this is confirmed by EMEC and the Regulator, then the potential impacts of the proposal will be considered to be pre-appraised.

3.2 Project-specific Environmental Appraisal

Whilst the Environmental Appraisal has pre-appraised many of the potential impacts at the Fall of Warness using the project envelope description, there will be some elements of some developer projects for which this was not possible. This will be the case where some or all of the following apply: aspects of the proposal are not within the project envelope; specific information was unknown or unavailable; the range of options to be used was too large to be assessed. In such instances it will be necessary for the developer to provide additional project-specific information with their Marine Licence application documentation. This will enable the Regulator to assess the project and, if necessary, undertake an Appropriate Assessment. Marine Scotland and SNH will advise on the approach to any additional appraisals and will be consulted on their outcomes. Any mitigation and/or monitoring identified through this process will also need to be integrated into a PEMP.

In addition to the few specific effect-pathways not appraised, there are a number of broad aspects that the Environmental Appraisal and or project envelope description do not cover but for which the Regulator may require further information or assessment, namely:

- Environmental topics typically referred to the Scottish Environmental Protection Agency (SEPA) are **not** addressed in these appraisals. This includes issues relating to the use or

release of pollutants and contaminants, such as hydraulic fluids, oils or antifouling paints. The competent authority should therefore continue to consult SEPA on such topics.

- Onshore (including intertidal) ancillary developments and infrastructure are not addressed in these appraisals (including the landfall of cables). Any such proposals require consultation under the Town and Country Planning (Scotland) Act 1997.
- The documentation does not seek to review or appraise any of the other aspects that require consideration for device deployment, such as navigational safety (see Section 1.3.2) or third party verification (Section 1.6).
- The documentation does not appraise decommissioning which will be dealt with separately through the DECC process (see Section 1.6 for further details on the decommissioning process).

3.3 Environmental Mitigation and Monitoring

The Environmental Appraisal has already identified some of the mitigation and/or monitoring requirements likely to be necessary for deployment at the Fall of Warness. This information is provided to help assist individual developers to prepare a PEMP. The PEMP should contain a Construction Method Statement (CMS) specific to the individual developer's project. Further information and guidance is provided in the Environmental Appraisal document. A first draft of the PEMP should be submitted with the Marine Licence application. The project-specific PEMP will be an iterative document, the framework, principles and details of which will be agreed as part of any consent from the Regulator. **The results of mitigation and monitoring carried out in accordance with the PEMP must be submitted to the Regulator in fulfilment of any licence conditions.**

3.4 Other Licence/Consent Requirements

There may be instances where additional licences/consents are required in relation to particular species or surveys. These have been identified where possible in the Environmental Appraisal and may include:

- Licence to disturb European Protected Species (EPS) under the Habitats Regulations 1994 (as amended in Scotland)
- Licence to disturb basking sharks under the Wildlife and Natural Environment (Scotland) Act 2011

EMEC/Marine Scotland will advise if any of these licences and any associated mitigation will be required. Such mitigation is likely to be limited to undertaking marine mammal observations during key activities, although it could extend beyond this, depending on the project details.

3.5 List of Commitments

There are likely to be some issues of environmental concern, in relation to which the Regulator wishes to see some mitigation (which may be monitoring of the device in operation). These will be discussed during the preparation of the PEMP. Developers should summarise all realistic and tangible commitments made in the Marine Licence application submission documentation in a

Commitments Table/Register to be included within the PEMP. The format for this is provided in Appendix 2 of this document.

Some of the commitments made by the developer may affect the final device design. If a material change to the design is subsequently made, then the impacts and list of commitments will need to be reviewed before work can proceed.

Developers should ensure that they discuss appropriate commitments with EMEC, as well as with Marine Scotland, as there may be operational implications to be considered.

The issues shown in Appendix 2 are by way of example only and should not be considered as an exhaustive list. Any other issues/commitments which may be important from an environmental perspective should also be included in the Commitment Register.

Appendix 1: Considerations for Activities Out-with EMEC Facilities

Orkney has a wide range of resources and services available to support developer test activities and wherever possible developers are encouraged to make use of these.

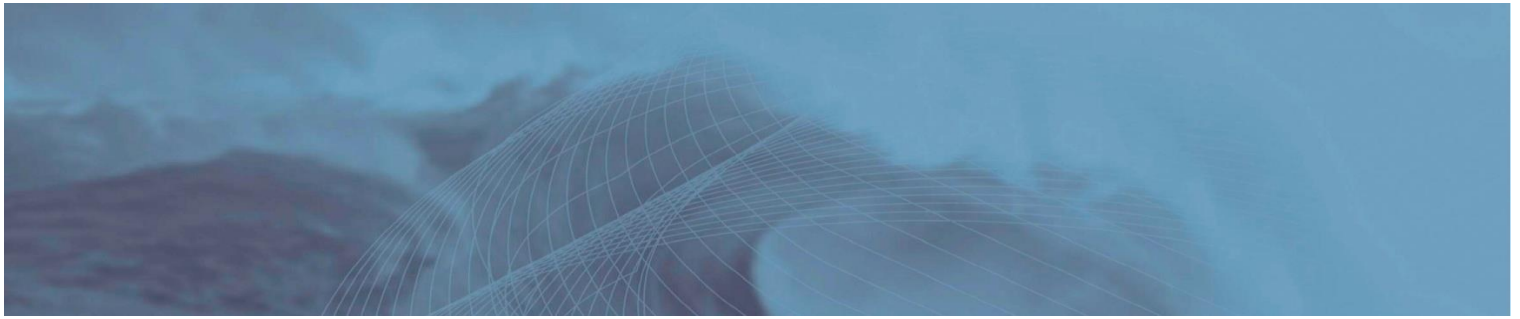
If developers take advantage of the resources and services available, they are encouraged to consider potential offsite environmental effects. Examples of the issues that should be considered include those listed in the table below, although the table should not be considered to be an exhaustive list as each location will have different sensitivities.

Offsite	Issues to be considered
Construction and fabrication	<ul style="list-style-type: none"> • Location of fabrication. • Noise and other pollution (eg dust, waste water, fuel, oils, etc) • Disturbance, displacement or damage to legally protected or sensitive habitats, species or landscapes – licenses may be required in advance
Standby, support, offsite maintenance and decommissioning requirements	<ul style="list-style-type: none"> • Areas/locations required e.g. offsite mooring, harbour/pier facilities (timing and duration requirements for these facilities). • Vessel requirements e.g. number, size (GRT, draft etc) duration, timing (i.e. months) etc. • Details of any onshore facilities required additional to those provided by EMEC e.g. lay down areas (devices and supplies), workshops, crane access, slipways, offices (including requirements at decommissioning). • Requirements in event of emergency including vessel requirements, mobilisation times etc. • Noise and other pollution (eg dust, waste water, fuel, oils, etc) • Disturbance, displacement or damage to legally protected or sensitive habitats, species or landscapes - licenses may be required in advance
Personnel requirements	<ul style="list-style-type: none"> • Numbers of people, time of visit, length of stay etc.
Tow to site	<ul style="list-style-type: none"> • Draft during tow, vessel requirements (number and size), speed during tow (knots/ms⁻¹), proposed route (description), manoeuvrability (e.g. length of tow etc). • Disturbance, displacement or damage to legally protected or sensitive species or habitats - licenses may be required in advance • Ballasting requirements
Temporary docking requirements	<ul style="list-style-type: none"> • Devices and associated vessels. • Areas/locations required e.g. offsite mooring, harbour/pier facilities (timing and duration requirements for these facilities). • Frequency of device off test berth including during maintenance and expected length of time at quayside. • Description of activities to take place at quayside. • Noise and other pollution (eg dust, waste water, fuel, oils, etc) • Disturbance, displacement or damage to legally protected or sensitive habitats, species or landscapes - licenses may be required in advance
Waste minimisation and disposal	<ul style="list-style-type: none"> • All efforts should be made to minimise waste. • Proposed waste disposal and oil/fuel spill procedures. • Arrangements for storing and handling non-hazardous and hazardous (special) wastes eg batteries, sludge, lighting units, paints, greases, oils, lubricants, solvents, coolants, sewage, domestic, scrap, packaging etc.

Appendix 2: Sample Commitments Table (Environmental Monitoring)

Issue	Commitment or action	Responsibility	Target completion date	Actual completion date	Notes
*EXAMPLE					
Planning & Construction	Antifouling to be applied to essential areas only and not over entire structure	Developer			
	All paints and coatings to conform to BSI ???	Developer			
	Lighting & marking of device to be agreed by consultation with NLB as part of consenting process.	Developer			
Installation	Local contractors will be used where practically and economically possible	Developer			
	Liaison with OIC Marine Services with regard to use of local harbour facilities.	Developer			
	Notice To Mariners will be issued as required and in accordance with EMEC Standard Operating Procedures.	Developer			
Device Operation	Emergency Response Procedure (ERP) to cover mooring line/device failure will be established in line with EMEC's ERP.	Developer			
	An Environmental Monitoring Plan approved by MS-LOT will be adhered to.	Developer			
	The noise signature of the device will be defined.	Developer			
Decommissioning	Decommissioning Programme to be submitted to EMEC and DECC.	Developer			

*The details included in the table above are by way of example only and should not be considered as an exhaustive list. Any other issues/commitments which may be important from an environmental perspective should also be included.



FOR FURTHER DETAILS PLEASE CONTACT:

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