



Scottish Government
Riaghaltas na h-Alba
gov.scot

E: ms.marinerenewables@gov.scot

**MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT)
REGULATIONS 2007 (REGULATION 22)**

ENVIRONMENTAL IMPACT ASSESSMENT CONSENT DECISION

PROJECT TITLE: WEST ISLAY TIDAL ENERGY PARK, SOUTH WEST OF ISLAY

APPLICANT: DP MARINE ENERGY LIMITED

LOCATION: APPROXIMATELY 6 KM OFF THE SOUTH-WEST COAST OF THE
ISLAND OF ISLAY IN ARGYLL AND BUTE, SCOTLAND

| Name | Assessor or Approver | Date |
|----------------|-----------------------------|-------------|
| Tracy McCollin | Assessor | 23/02/2017 |
| Gayle Holland | Approver | 24/02/2017 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

TABLE OF CONTENTS

| | | |
|----|--|----|
| 1 | Introduction..... | 3 |
| 2 | Development description | 4 |
| 3 | The Environmental Statement | 4 |
| 4 | The Appropriate Assessment..... | 5 |
| 5 | Consultation..... | 5 |
| 6 | Summary of consultation responses received | 8 |
| 7 | Summary | 19 |
| 8 | Conditions..... | 20 |
| 9 | Marine Licence Conditions | 20 |
| 10 | Section 36 conditions..... | 34 |
| 11 | Regulatory evaluation | 49 |
| 12 | Environmental Impact Consent Decision | 50 |

LIST OF TABLES

| | | |
|---------|-------------------------|---|
| Table 1 | List of consultees..... | 7 |
|---------|-------------------------|---|

**MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT)
REGULATIONS 2007 (REGULATION 22)**

ENVIRONMENTAL IMPACT ASSESSMENT CONSENT DECISION

PROJECT TITLE: WEST ISLAY TIDAL ENERGY PARK, SOUTH WEST OF ISLAY

APPLICANT: DP MARINE ENERGY LIMITED

LOCATION: APPROXIMATELY 6 KM OFF THE SOUTH-WEST COAST OF THE ISLAND OF ISLAY IN ARGYLL AND BUTE, SCOTLAND

Having considered the analysis and recommendations of the environmental impact assessment process, an environmental impact assessment consent decision is given **in favour** of the DP Marine Energy West Islay Tidal Energy Park in accordance with Regulation 22 of the Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended).

1 Introduction

1.1 This document constitutes an Environmental Impact Assessment (“EIA”) consent decision under regulation 22 of the Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended) (“MWR”), for an application which has been submitted by DP Marine Energy Limited (‘the Company’), to Marine Scotland (“MS”), the Licensing Authority on behalf of the Scottish Ministers, for:

A Marine Licence under Part 4 of the Marine (Scotland) Act 2010 to construct and operate the DP West Tidal Energy Park, also referred to as the ‘Development’.

1.2 The Works described in this Consent Decision comprise part of a project listed in Annex II of the Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (“the EIA Directive”). The EIA Directive has been transposed into UK law for marine works (including works requiring a Marine Licence) by the MWR.

1.3 The project in this instance comprises the marine elements of the Development, to be sited approximately 6 km off the south-west coast of the island of Islay, within the area bounded by joining the following points:

| | |
|----------------------------|----------------------------|
| 55° 39.61' N 006° 03.58' W | 55° 38.90' N 006° 03.54' W |
| 55° 39.21' N 006° 03.58' W | 55° 38.85' N 006° 03.56' W |
| 55° 39.15' N 006° 03.54' W | 55° 38.82' N 006° 03.59' W |
| 55° 39.47' N 006° 03.53' W | 55° 39.47' N 006° 03.72' W |
| 55° 39.45' N 006° 03.51' W | 55° 39.72' N 006° 03.75' W |
| 55° 39.45' N 006° 03.51' W | 55° 40.02' N 006° 03.70' W |
| 55° 38.94' N 006° 03.52' W | 55° 39.63' N 006° 03.67' W |

- 1.4 The application made to MS was supported by an Environmental Statement (“ES”) and supporting information as required by regulation 12 of the MWR.

2 Development description

- 2.1 The Development comprises of between 15 and 30 tidal energy convertors (“TECs”) delivering a maximum installed capacity of 30 MW together with the associated infrastructure required to export the generated energy to the shore on Islay (see Environmental Statement [Volume 2, Chapter 3](#)).

3 The Environmental Statement

- 3.1 The principal potential impacts of the Development on a range of receptors, as detailed in the ES, are:

- Physical environment
- Mammals
- Benthic
- Otters
- Birds
- Natural fish
- Commercial fisheries
- Archaeology
- Shipping and navigation
- Landscape and seascape visual
- Traffic and transport
- Recreation and amenity
- Socio-economic
- Noise
- Electromagnetic Fields

3.2 Environmental sensitivities

The Company submitted reports to inform a Habitats Regulations Appraisal (“HRA”) with the application on 16 September 2013. These reports were sent out for consultation. Based on information provided by Scottish Natural Heritage (“SNH”) MS concluded that the Development would be likely to have a significant effect on guillemots and Atlantic puffin as qualifying interests of the Special Protection Areas (“SPAs”) listed below.

Ailsa Craig SPA, Canna and Sanday SPA, Mingulay and Berneray SPA, North Colonsay and Western Cliffs SPA and Rum SPA

- Guillemot (*Uria aalge*) (breeding)

Canna and Sanday SPA, Mingulay and Berneray SPA

- Atlantic puffin (*Fratercula arctica*) (breeding)

MS were, therefore, required to complete an Appropriate Assessment (“AA”).

- 3.3 In Scotland, Scottish Ministers are currently in the process of identifying a suite of new marine SPAs. In 2014 advice was received from the Statutory Nature Conservation Bodies (“SNCBs”) on the sites most suitable for designation and at this stage they became draft SPAs (“dSPAs”). Once Scottish Ministers have agreed the case for a dSPA to be the subject of a public consultation, the proposal is given the status of proposed SPA (“pSPA”) and receives policy protection, which effectively puts such sites in the same position as designated sites, from that point forward until a decision on classification of the site is made. This policy protection for pSPAs is provided by Scottish Planning Policy (paragraph 210), the UK Marine Policy Statement (paragraph 3.1.3) and the National Marine Plan for Scotland (paragraph 4.45).
- 3.4 It is not a legal requirement under the Habitats Directive or relevant domestic regulations for the AA to assess the implications of the proposal on the pSPAs. The AA includes an assessment of implications upon those sites in accordance with domestic policy. Scottish Ministers are also required to consider article 4(4) of Council Directive 2009/147/EC on the conservation of wild birds (“the Birds Directive”) in respect of the pSPAs. The considerations under article 4(4) of the Birds Directive are separate and distinct to the considerations which must be assessed under this Habitats Directive assessment but they are, nevertheless, set out within the AA.
- 3.5 In accordance with regulation 50 of the Conservation (Natural Habitats, &c.) Regulations 1994 and regulation 63 of the Conservation of Habitats and Species Regulations 2010 the Scottish Ministers will, as soon as reasonably practicable following the formal designation of the pSPAs, review their decisions authorising the proposal. This will include a supplementary AA being undertaken concerning the implications of the proposal on the sites as designated (as they are currently pSPAs their conservation objectives are currently in draft form, their conservation objectives are finalised at the point the sites are designated).

4 The Appropriate Assessment

- 4.1 The proposed Development required an AA under Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994 and Regulation 61 of the Conservation of Habitats and Species Regulations 2010.
- 4.2 Having considered the advice from SNH and taking account of cumulative and in combination effects, Marine Scotland concluded the Development will not adversely affect the site integrity of the Ailsa Craig SPA, the Canna and Sanday SPA Mingulay and Berneray SPA, the North Colonsay and Western Cliffs SPA and the Rum SPA.

A full explanation of the issues and justification for decisions regarding site integrity is provided in the AA.

5 Consultation

This section summarises consultation on the Development undertaken by Marine Scotland in 2013.

5.1 Public consultation

In accordance with Regulation 16(1)(b) of the MWR, Marine Scotland instructed the Company to place a public notice in relevant newspapers for two successive weeks. These public notices were combined with the public notice requirements essential under The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (as amended), the Electricity (Applications for Consent) Regulations 1990 (as amended) and the Marine (Scotland) Act 2010. The public notice contained details of:

- The Applicant's name and address that an Application had been made under Part 4 of the Marine (Scotland) Act 2010, and a statement of the nature and location of the Development
- The address details of where the Application and ES could be inspected during office hours
- Notice that parties could make such requests and representations to Scottish Ministers on the ES by specified dates

5.2 Notice of the Application and ES appeared in the following publications:

- The Herald 20 and 27 September 2013
- The Illeach 21 September and 05 October 2013
- Edinburgh Gazette 20 and 24 September 2013

5.3 Under The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (as amended) the applicant was required to place public notices following the first statutory consultee response which was substantive to the ES, hence the additional notices which were placed in:

- Edinburgh Gazette 08 and 15 April 2014
- The Illeach 05 April and 15 May 2014

5.4 Consultees

As part of the consideration of the Application and ES, Marine Scotland conducted a consultation with advisory and regulatory bodies for comment on the validity of the ES document and the conclusions of environmental impact drawn. The consultation on the ES opened on 19th September 2013 and closed on 2nd November 2013 with Local Authorities permitted additional time in accordance with The Electricity (Applications For Consent) Regulations 1990 (as amended). Extensions to provide comments were permitted to consultees if required.

5.4.1 Consultee List

Environmental Impact Assessment Consent Decision – West Islay Tidal Energy Park

The Application, ES, HRA Addendum and accompanying documents were sent to the consultees listed in table 1 below, which provides information on the responses received.

Table 1 List of consultees

| Consultee | Response received | No comments | No response |
|--|-------------------|-------------|-------------|
| Argyll and Bute Council | X | | |
| Scottish Natural Heritage | X | | |
| Scottish Environment Protection Agency | X | | |
| Association of Salmon Fishery Boards | X | | |
| BT Network Radio Protection | | X | |
| Chamber of Shipping | | | X |
| Clyde Fisherman's Association | X | | |
| The Crown Estate | | | X |
| Defence Infrastructure Organisation | X | | |
| Historic Environment Scotland | X | | |
| Inshore Fishery Group(s) | | | X |
| Islay Community Council | X | | |
| Marine Scotland Compliance | | | X |
| Marine Safety Forum | | | X |
| Maritime and Coastguard Agency | X | | |
| Marine Scotland Science | X | | |
| Northern Lighthouse Board | X | | |
| Royal Society for the Protection of Birds Scotland | X | | |
| Royal Yachting Association Scotland | X | | |
| Scallop Association | | | X |
| Scottish Canoe Association | | | X |
| Scottish Fishermen's Federation | X | | |
| Scottish Fisherman's Organisation | | | X |
| Scottish Surfing Federation | | | X |
| Scottish Wildlife Trust | | | X |
| Sport Scotland | | | X |
| Surfers Against Sewage | X | | |
| Transport Scotland | X | | |
| Transport Scotland (Ports and Harbours) | | | X |
| Visit Scotland | X | | |
| Whale and Dolphin Conservation | X | | |

6 Summary of consultation responses received

6.1 The following text provides a brief summary of the representations received from the public. This is followed by an outline of the main impacts identified in the ES, the responses received from the consultees in relation to each of these and, where applicable, suggested mitigation measures.

6.2 Seventeen representations were received from members of the public. The majority of the comments received expressed concerns about the impact of the Development on the local environment and landscape. Some felt the scale of the Development was too large for the area and others noted that if non surfacing piercing systems could be used that should be the first choice. Concerns were also raised regarding the effect on businesses, particularly tourism, with many respondents feeling the Development would damage the beauty for which the island is known. Some respondents expressed their opinion that this type of energy generation is inefficient and that other sources of energy should be used. Some respondents felt the Environmental Statement did not accurately reflect the local populations feelings about the Development and that there had not been adequate consultation with those directly affected. Some felt that there was a lack of detail in the EIA. Specific concerns about salmon, basking sharks, seals and seabirds were raised. Although a few respondents welcomed alternative sources of energy they expressed doubts as to whether such schemes would achieve what had been promised.

6.3 Physical environment

The summary of the ES on the hydrodynamic and sediment processes associated with the Development indicated that there will be a small effect on tidal currents over a downstream distance of several kilometres but will only have a significant effect on currents, waves and sediment distribution over an area of about 100 m. The cables and cable landfall will affect surface sediment processes over a narrow corridor of no more than 50 m due to trenching and placement of protection. Suspended sediment due to cable trenching and pile installation will be dispersed rapidly over a wide area.

The ES only considered the adjacent shoreline as a sensitive receptor and did not predict any cumulative impacts with other existing or proposed developments. The overall residual impact was considered to be negligible.

Marine Scotland Science (MSS) and Scottish Natural Heritage (SNH) both provided comments on the assessment and MSS were provided with some further clarification on sediment dispersal by the Company. Neither disagreed with this assessment that the impact was considered to be negligible. SNH requested that modelling work is referred to in the final design envelope decision and the Construction Method Statements. SNH noted that the final information about the locations, configuration and method of cable installation should be included in the Environmental Management Plan (“EMP”) and cross referenced to the Construction Method Statement

(“CMS”). A condition requiring an EMP and CMS is to be included in any consent granted by Scottish Ministers for this development under section 36 of The Electricity Act (1989) and/ or any marine licence granted.

6.4 Marine mammals and basking sharks

The ES identified a number of impacts on marine mammals and basking sharks:

- Injury and disturbance due to noise and presence of construction and maintenance vessels and activities
- Injury and disturbance caused by operational noise
- Disturbance at haul-out sites
- Collision with construction and maintenance vessels (including corkscrew issue)
- Increased turbidity
- Displacement leading to habitat exclusion and barrier effects
- Collision with operating turbines
- Electromagnetic fields
- Accidental release of contaminants
- Indirect impacts of changes to prey resource

Of these, only collision with operational turbines was considered to have a moderate residual impact. All the other effects were considered to be minor or negligible.

SNH were in agreement with the assessments of the impact on marine mammals and basking sharks but noted the uncertainty associated with these predictions. MSS carried out collision risk calculations and confirmed they did not consider collision risk to be a significant issue for harbour porpoise, harbour seals or grey seals. Other respondents (Royal Society for the Protection of Birds (RSPB), Whale and Dolphin Conservation (WDC)) highlighted the current lack of knowledge regarding the impact of tidal turbines on marine mammals and basking sharks and supported monitoring programmes to improve this knowledge. The use of Marine Mammal Observers (MMOs) was requested by MSS and WDC, who also suggested the use of passive acoustic monitoring (PAM). WDC also noted that if methods other than piling could be used then these should be considered. Conditions requiring an EMP and the use of MMOs will be included in any consent granted by Scottish Ministers for this Development under section 36 of The Electricity Act (1989) and/ or any marine licence granted. If piling is to be undertaken there will be a condition for a piling strategy which should consider the use of PAM.

6.5 Benthic

The ES reported the findings of the assessment of the impacts on the benthic habitats and invertebrate communities in the proposed tidal site and

western export cable route. The assessment considered the construction, operation and decommissioning phases and the following impacts:

- Direct physical disturbance and temporary substratum loss
- Long term substratum loss and colonisation of introduced substratum
- Smothering (release of drill cuttings)
- Increased suspended sediment and deposition
- Introduction and spread of marine non-native species
- Decrease in water flow
- Contamination
- Electromagnetic fields

None of these impacts were considered to have more than a minor or negligible effect on the benthic habitats and invertebrate communities.

SNH and MSS noted that there was Annex 1 reef habitat present in the area. SNH agreed with the view in the ES that the energetic nature of the area means that the fauna present are adapted to disturbance and able to recover from it. SNH advised that post construction monitoring should collect data to validate these predictions. A condition requiring post construction monitoring including benthic surveys is to be included in any consent granted by Scottish Ministers for this Development under section 36 of The Electricity Act (1989) and/ or any marine licence granted.

6.6 Otters

The assessment considered the impact of the laying of the export cable in intertidal zone at landfall at Kintra, Islay. The main impacts identified were displacement and loss of individuals through construction noise, vibration, increased traffic or becoming trapped in excavations and displacement through disturbance caused by increased human activity during maintenance activities. The assessment identified the potential for a significant effect during the construction and installation phase, which may be repeated during the decommissioning phase if the cable is not left in place. Mitigation measures such as preconstruction surveys to find out if the otters use the development footprint area and an Ecological Clerk of Works (ECoW) would mean there would be no significant effect for otters in the intertidal zone.

SNH provided comments on the work associated with the cable as it comes ashore through the intertidal zone i.e. onshore ancillary aspects that will be assessed under Town and Country Planning legislation. They noted a European Protected Species (“EPS”) licence may be required if evidence of otters is found. A condition requiring a pre-construction otter survey, and the requirement for an ECoW is to be included in any consent granted by Scottish Ministers for this Development under section 36 of The Electricity Act (1989) and/ or any marine licence granted.

6.7 Birds

The potential effects on birds included in the assessment were:

- Disturbance of seabirds from Development vessels
- Direct sea-bed habitat loss due to the placement of TECs
- Displacement of seabirds (indirect habitat loss) from the vicinity of the Development infrastructure and vessels
- Attraction of seabirds (indirect habitat gain) to the vicinity of the Development infrastructure, especially emergent infrastructure
- Collision with TEC rotors
- Pollution and contamination, in particular from vessel discharges and accidental leakage of contaminants

The assessment concluded that the likely impacts of the Development on regional populations of all bird species are not significant under the terms of the EIA regulations.

RSPB had no objection but had concerns over the potential environmental impacts. RSPB recommended a series of conditions should be attached to any consent. These conditions aimed to establish a comprehensive programme of monitoring and associated working group to advise on mitigation measures required if impacts are found to be greater than assessed. SNH were also in agreement with the assessment of the impacts on birds. The AA completed on bird qualifying interests concluded that the Development would not adversely affect the integrity of any of the SPAs close by. A condition requiring post construction monitoring is to be included in any consent granted by Scottish Ministers for this Development under section 36 of The Electricity Act (1989) and/ or any marine licence granted.

6.8 Natural fish

The assessed potential effects on natural fish and shellfish were:

- Construction (and those applicable at decommissioning) – fluid/contaminant release, light pollution during night working, excess noise and vibration and an increase in suspended sediments from construction activities
- Installed life – fluid/contaminant release, loss of spawning/nursery grounds, removal/alteration of habitats, the presence of anti-fouling compounds and barriers to fish movement
- Operation – collision risk, excess noise and vibration, electromagnetic fields, changes in tidal flows and operational light pollution

The assessment concluded that the Development is considered to present a negligible or minor consequence of impact in relation to shellfish and natural fish species present at the tidal site and along the western export cable route to Islay. A number of good practice management and mitigation actions are proposed during design, construction, maintenance, operational monitoring and decommissioning activities:

- **Design considerations:** Secure fluid containment and appropriate bunding, appropriate selection (low toxicity, biodegradable) of fluids, contaminants and anti-fouling paints to international/national standards, insulation aspects (cabling and devices)
- **Construction aspects:** Controls for contamination release and response, use of certified construction techniques and use of low toxicity oils and lubricants
- **Maintenance activities:** Confirm the inventory of fluids/contaminants during maintenance checks to assess for leaks. Checking of seals and containment measures during maintenance
- **Decommissioning methods:** Repetition of any relevant construction management/mitigation aspects and monitoring that also apply during decommissioning

The Association of Salmon Fishery Boards (“ASFB”) commented that it was not possible, given current knowledge, to demonstrate that the Development will not adversely affect salmon and sea trout fisheries. However, they were keen to work with the Company and Marine Scotland to identify appropriate monitoring programmes to assess the risks more accurately. ASFB noted they would like reference to the national strategy into strategic research for offshore marine renewables and anadromous fish. MSS provided some comments that outlined some areas where more information was required, some of these concerns will be addressed via conditions requiring post construction monitoring, which will provide more data that can be used to answer some of these questions. SNH were broadly in agreement with the assessment as the site of the Development is of a relatively lesser functional importance as a nursery ground, at least in the context of the availability of similar habitats. The siting and operation of a tidal farm in this location is not likely to represent a barrier to movement.

Conditions requiring post construction monitoring, an EMP and CMS are to be included in any consent granted by Scottish Ministers for this Development under section 36 of The Electricity Act (1989) and/ or any marine licence granted.

6.9 Commercial fisheries

This part of the ES examined the potential effect on commercial fishing activities. For the purposes of the assessment commercial fisheries were defined as any legal fishing activity undertaken for declared taxable profit.

The assessment used the Cefas and Marine Consents and Environment Unit (2004) Guidelines for offshore wind developments¹ to identify the following potential impacts:

- Implications for fisheries during the construction phase

¹ CEFAS/MCEU (2004) Guidance note for Environmental Impact Assessment in Respect of FEPA and CPA Requirements. Available from:
<https://www.cefas.co.uk/publications/files/windfarm-guidance.pdf>

- Implications for fisheries when the Development is completed
- Adverse impact on commercially harvested fish and shellfish populations
- Adverse impact on recreational fish populations
- Complete loss or restricted access to traditional fishing grounds
- Safety issues for fishing vessels
- Increased steaming times to fishing grounds
- Obstacles on the sea bed post construction
- Interference with fisheries activities

In addition, the following potential impact was considered for assessment:

- Displacement of fishing activity into other areas

The principle species targeted within the vicinity of the tidal site and western cable route are edible crab, lobster, king scallop and velvet crab. The assessment concluded that commercial fishing activity within the tidal site has historically been low and as a result no significant impacts were identified for the construction, operation or decommissioning phases. Significant effects on the creel, scallop and nephrops fisheries were identified in relation to installation and operation due to the surface laid export cable. These were at worst moderate and implementation of suggested mitigation will result in residual effects which are of minor significance. The conditions listed below will implement mitigation specific to commercial fisheries and other conditions e.g. a Vessel Management Plan (“VMP”) and a Navigational Safety Plan (“NSP”) described in the Shipping and Navigation section (Section 6.11) will also provide mitigation of potential impacts.

After some discussion regarding the inclusion of conditions relating to setting up a Commercial Fisheries Working Group, submission of a Fisheries Mitigation Plan and the appointment of a Fisheries Liaison Officer the Clyde Fishermen’s Association and Scottish Fishermen’s Federation withdrew their initial objections. MSS noted the issues had been addressed adequately but noted some concerns regarding the cable and recommended this should be buried.

Conditions requiring a Fisheries Working Group (“FWG”), a Fisheries Management and Mitigation Strategy (“FMMS”), the appointment of a Fisheries Liaison Officer (“FLO”) and a Cable Plan (“CaP”) are to be included in any consent granted by Scottish Ministers for this Development under section 36 of The Electricity Act (1989) and/ or any marine licence granted.

6.10 Archaeology

The Development may have both direct and indirect impacts upon the physical fabric of marine archaeology and cultural heritage assets and the assessment has considered the impact of the Development on the following cultural resources:

- Designated cultural heritage assets, comprising proposed Historic Marine Protected Areas/designated wrecks, scheduled monuments and other designated cultural heritage assets
- Undesignated cultural heritage assets, including maritime losses such as wrecks, aircraft and their associated debris
- Submerged archaeology and palaeoenvironmental significant deposits

The known cultural heritage assets within the study area have been identified, and the archaeological potential for the discovery of previously unknown remains have been considered. Impacts of negligible to major significance have been identified but with appropriate mitigation these will have minor to negligible significance.

Historic Scotland (now Historic Environment Scotland) had no objections to the results of the assessment and were satisfied with the proposed mitigation strategy. The mitigation strategy included temporary exclusion zones and micrositing to protect archaeological features. There will also be a Written Scheme of Investigation and Protocol for Archaeological Remains agreed with Historic Scotland and Argyll and Bute Council. All these mitigation measures will form part of the CMS and a condition requiring a CMS are to be included in any consent granted by Scottish Ministers for this Development under section 36 of The Electricity Act (1989) and/ or any marine licence granted.

6.11 Shipping and navigation

The ES considered the current shipping and navigation activity within and in the vicinity of the proposed Development and associated study area and considered the potential impacts of the Development on that activity. The ES also contained a summary of the Navigational Safety Risk Assessment. The potential impacts for each type of vessel considered were:

Commercial vessels

- Obstruction to vessel navigation potentially resulting in changes to shipping routes and increased steaming time
- Increased risk of vessel collision, between vessels and the devices whether surface or subsea
- Increased risk of vessel to vessel collision due to reduced sea room.

Military vessels

- Navigational impacts to military surface vessels are similar to those described above for commercial shipping
- Restriction on submerged vessel navigation
- Potential impact of noise emitted from the turbines affecting submarine acoustic sensors used in navigation and detection

Fishing vessels

- Similar issues to commercial shipping but with differences in relation to vessel manoeuvrability when steaming to fishing grounds or with deployed gear
- Potential risk of fouling the subsea cable

Recreational vessels

- Similar issues to commercial shipping and also fishing vessels in terms of manoeuvrability
- Potential for use of anchorages near cable route

The assessment provided a summary of recommendations to address the issues raised and the potential impacts on shipping resulting from the Development are discussed in the relevant sections of the ES e.g. impact on fishing vessels is discussed in Commercial Fisheries. However, it was noted that the issue of the potential impact of turbine acoustics on military interests in the area required further consultation to ensure appropriate measures were put in place to address the concerns raised.

The issues regarding shipping and navigation and the impact on the environment and other users of the sea are dealt with in their specific parts of the ES and are not reiterated here. The Maritime and Coastguard Agency noted that the use of the Rochdale envelope and associated options made providing detailed comments difficult and recommended an approach that would have a device specific navigational risk assessment so that the risk analysis can be carried out against known parameters. The Northern Lighthouse Board (“NLB”) made a similar point regarding there not being enough specific information to provide detailed comments with regard to any marking and lighting recommendations and noted that a condition was required that no equipment deployment should take place unless NLB have agreed a suitable marking scheme and contingency arrangements.

Conditions requiring a VMP, NSP and a Lighting and Marking Plan (“LMP”) are to be included in any consent granted by Scottish Ministers for this Development under section 36 of The Electricity Act (1989) and/ or any marine licence granted.

6.12 Landscape and seascape visual

The assessment considered the effect of the worst case scenario of 15 surface piercing TECs on seascape and landscape character and visual amenity during each of the following four phases.

Installation. This stage would include the impact of the vessels used for seabed drilling, transport/storage of the TEC units, crew change support and cable installation. The impact of temporary buoys around the perimeter of the construction area and temporary lighting was also considered.

Commissioning and Operation. The assessment noted that these two phases are likely to have the same effect on the seascape, landscape and

visual amenity. The elements with the potential to cause an effect would be the visible parts of the 15 TEC array i.e. the surface-piercing pods and upper sections of towers above sea-level.

Decommissioning. The effects during this stage were assessed as being similar to the installation phase and were not reassessed in detail.

The assessment concluded that overall there would be no significant effects on seascape/landscape character.

Argyll and Bute Council had no specific objection but requested that they were included in any further relevant consultations about the final development design in respect of turbine type, colour finish, arrangement, number of turbines and the effect of any operational/navigational lighting requirements upon landscape/seascape. Historic Scotland (now Historic Environment Scotland) did not agree with the conclusion that there would be “no effect” on the setting of four of the five scheduled monuments considered but noted that the potential effects on these and other assets were not of a significance to warrant an objection. Islay Community Council supported the Development in principle but could not make a final decision until it is known which turbines i.e. sub sea or surface piercing will be used. SNH noted the assessment was thorough and gave an objective assessment of likely impacts. SNH considered that the Development will have a minor effect on the designated Area of Panoramic Quality because of the 21 m height of the MCT turbine towers and their distance offshore have a relatively restricted effect.

6.13 Traffic and transport

Traffic and transport issues are in relation to the onshore elements only and are not discussed further in this consent notice, which is relevant only to the marine elements

6.14 Recreation and amenity

A baseline assessment of tourism and an audit of recreational facilities and activities was carried out. This included:

- Visitor and tourist trends
- Tourism volume and value
- Visitor patterns
- Visitor accommodation occupancy rates
- Expenditure patterns
- Tourism employment
- The drivers currently having an impact upon the industry both nationally and locally

An assessment of recreation facilities and resources was undertaken in the local area and included:

- Tourist accommodation including bed and breakfast and guest houses, caravan parks, hotels and camping. The assessment included their business prospects, visitor profile and potential business effects.
- Visitor attractions, facilities and destinations including archaeological sites, cultural facilities, sports, recreation and leisure facilities. The assessment included their market, performance and business effects.
- Visitor activities including driving, cycling, walking, bridleways and rights of way. The assessment included their visitor numbers, patterns of activity and potential focal points of spend.

The recreational impact was assessed through a combination of the Landscape/Seascape and Visual Impact Assessment to establish potential visual impacts and an assessment of whether or not physical disturbance of tourism resources will occur temporarily or permanently as a result of the Development.

The assessment concluded that the impact of the Development on the recreation facilities in the local area will be limited and only of minor and not significant scale.

Visit Scotland recommended that any potential detrimental impact of the proposed Development on tourism, whether visually, environmentally and economically, be identified and considered in full. They also raised specific concerns relating to the impact of any perceived proliferation of Developments may have on the local tourism industry. The Royal Yachting Association Scotland raised two issues that needed to be taken into account i.e. the scheme is included in the Clyde Cruising Club Sailing Directions and a plan to prevent vessels from entering the energy park and to rescue them if they do.

6.15 Socio-Economic

The ES provided an assessment of the potential socio-economic effects that could occur as a result of the Development and includes the potential beneficial and adverse effects upon the local economy in terms of income and job creation. The assessment addresses the potential worst and best case where the Development could potentially impact upon businesses and the local population alike on the local (Islay, Jura and Colonsay), wider area (Argyll and Bute Council area) and national Scottish economy. The methodology was a combination of web and desk based surveys and information assessment and analysis.

The summary of the assessment was that the Development could have the potential to act as a catalyst to create a critical mass of marine energy activity on Islay. The key issue for the island is the provision of high quality and skilled jobs, which can provide permanent employment of the local population and the infrastructure required to service the Development's needs and requirements.

Depending on the final turbine technology and development scenario the Development could result in a moderate and significant positive impact at the wider Argyll and Bute level and a moderate to major positive impact at a local Islay level during the operation and maintenance phase. No negative impacts were identified within the assessment but it was noted that a number of national, regional and local initiatives aimed at providing enhanced skills training, supply chain provision and support of business improvement working in the offshore marine devices industry would contribute to the likelihood of construction employment and output being based within the local and wider area.

6.16 Noise

In order to ascertain the impact of the noise that will be generated during the lifecycle of the Development the following steps were undertaken, and predicted:

- Measurement of the baseline ambient noise for the site
- Predict the noise emissions for the Development (turbines, vessels, drilling etc.) using data from a literature review
- Predict the noise signatures for the Development
- Undertake predictive modelling for the noise propagation
- Evaluate the effects of the additional noise with reference to the baseline measurements

The assessment provided detailed technical reports for installation and operational noise that predicted the worst case emission based on measured data from Strangford Lough and the European Marine Energy Centre.

The Defence Infrastructure Organisation (DIO) reviewed the information regarding noise emissions and were content for the application to be consented subject to a mitigation condition. The condition required the Company to ensure that the noise emissions of the array are limited so they will not exceed the maximum emissions identified and, if the designated thresholds are exceeded the array should be deactivated until it can resume operations within the designated noise thresholds. Further discussions between the Company and DIO clarified what was required and a protocol was agreed. SNH were broadly in agreement with the ES conclusions regarding underwater noise but noted that there are currently limited data on noise levels of drilling and the modelling was based on a large range of assumptions. SNH noted that basking sharks using the area are likely to be able to detect vessel, turbine and drilling noises. It was noted that for the tidal devices modelled the low frequencies were above the ambient noise levels for some distance and these are likely to be picked up by larger whale species. SNH recommended monitoring be conducted post construction to validate the modelled predictions.

Conditions requiring post consent monitoring and an EMP are to be included in any consent granted by Scottish Ministers for this Development under section 36 of The Electricity Act (1989) and/ or any marine licence granted.

An underwater noise condition in line with DIO requirements is to be included in any consent granted by Scottish Ministers for this Development under section 36 of The Electricity Act (1989) and/ or any marine licence granted.

6.17 Electromagnetic Fields (“EMF”)

The assessment included a literature review of previous studies of EMF in the marine environment and their effect on electro-sensitive fish, an overview of the EMF typically generated by power transmission cables and an assessment of the potential for the subsea electric inter-array and export cables for the proposed Development to cause adverse effects in marine organisms.

The ES considered EMF effects on marine mammals and basking sharks, benthic ecology and natural fish and considered these to be minor or negligible.

Although no specific objection was raised by SNH they noted that the B (magnetic) and iE (induced electric) fields had not been considered and this made it difficult to assess the risk of EMF on fish species. SNH welcomed the intention to bury or cover the inter-array and export cables where possible as this would reduce the risk of EMF. SNH recommended burying cables to a minimum of one metre and up to 3 m in water depths of less than 20m. A condition requiring a CaP is to be included in any consent granted by Scottish Ministers for this Development under section 36 of The Electricity Act (1989) and/ or any marine licence granted.

7 Summary

7.1 The potential impacts after putting in place the proposed mitigation measures were considered to be not significant, negligible or minor for the majority of the impacts identified. It was acknowledged that safety issues, increased steaming times and interference with towed and static gear for fishing vessels at the tidal site, around the inter array cables and along the western cable route would require monitoring in order to ensure a tolerable risk to navigation. Risks to navigation from cable laying, device installation operations and proposed clearance depths above the turbines were also found to require monitoring in order to achieve a tolerable impact on fishing and navigation.

7.2 A number of key mitigation and best practice measures have been proposed by the Company including:

- An Environmental Management Plan to be agreed with SNH and Marine Scotland
- An Environmental Monitoring Programme to be agreed with SNH and Marine Scotland. It is likely marine mammals, basking sharks and birds will require further monitoring to better understand the potential impacts

of the array of devices and to confirm the assumptions made in determining the level of potential impact to be attributed.

- A Construction Method Statement and a Pollution Control and Spillage Response Plan to be prepared and agreed with SEPA, SNH and Marine Scotland prior to commencement of construction
- An overarching Health, Safety and Environmental Management System
- Pollution Control and Spillage Response Plans

These proposals will be incorporated into the conditions included in any consent granted by Scottish Ministers for this Development under section 36 of The Electricity Act (1989) and/ or any marine licence granted.

- 7.3 It should also be noted that this proposed Development has taken some time to get to this stage of the process (the ES was submitted in 2013) and that further information and the results of research may now be available that could help inform management and mitigation measures.

8 Conditions

- 8.1 Following consideration of all relevant information, including the ES, HRA addendum, supporting documents and consultation responses, Marine Scotland consider that the following conditions must be included in a Marine Licence (section 8.2). Marine Scotland are satisfied that the conditions included in the Marine Licence or any section 36 consent which may be granted (section 8.3) will sufficiently address environmental concerns to allow a positive EIA consent decision.
- 8.2 For ease of cross referencing the numbers in the Marine Licence and section 36 consent are used.

9 Marine Licence Conditions

3. PART 3 – CONDITIONS

3.1. General conditions

3.1.1. Compliance with the Application and approved plans

The Licensee must at all times construct and operate the Works in accordance with this Licence, the Application, the Environmental Statement, the Section 36 consent and the plans and programmes approved by the Scottish Ministers.

The Licensee must, at all times, maintain the Works in accordance with the approved Operation and Maintenance Plan (“OMP”).

Reason: To ensure compliance with the Marine Licence, and the Environmental Statement associated with the Application.

3.1.2. Licence conditions binding other parties

All conditions attached to this licence bind any person who for the time being owns, occupies or enjoys any use of the Works for which this licence has been granted in relation to those licensed activities authorised under item 5 in section 21(1) of the 2010 Act whether or not this licence has been transferred to that person.

Reason: *To safeguard the obligations of the licence, in accordance with s.29(5) of the Marine (Scotland) Act 2010.*

3.1.3. Vessels, vehicles, agents, contractors and sub-contractors

The Licensee must provide, as soon as reasonably practicable in advance of their engagement in the Works authorised under this licence, the name and function of any vessel, vehicle, agent, contractor or sub-contractor appointed to engage in the Works to the Licensing Authority. Where applicable the notification must include the vessel type, vessel IMO number and vessel owner or operating company.

The Licensee must ensure that any changes to the supplied details must be notified to the Licensing Authority, in writing, 14 days prior to any vessel, vehicle, agent, contractor or sub-contractor engaging in the Works.

The Licensee must ensure that only those vessels, vehicles, operators, agents, contractors or sub-contractors notified to the Licensing Authority are permitted to carry out any part of the Works.

The above details must be recorded in section 2.5 and 2.6 of this licence. If not provided at application these details and any subsequent changes will require a variation to the licence to update section 2.5 and 2.6 prior to engagement in the Works.

The Licensee must satisfy themselves that any masters of vessels or vehicle operators, agents, contractors or sub-contractors are aware of the extent of the Works for which this licence has been granted, the activity which is licensed and the terms of the conditions attached to this licence. All masters of vessels or vehicle operators, agents, contractors and sub-contractors permitted to engage in the Works must abide by the conditions set out in this licence.

The Licensee must give a copy of this licence, and any subsequent variations made to this licence in accordance with section 30 of the 2010 Act, to the masters of any vessels, vehicle operators, agents, contractors or sub-contractors permitted to engage in the Works, and must ensure that the licence and any such variations are read and understood by those persons.

Reason: *To ensure all parties involved in the Works are aware of the licence and its conditions, to reduce the risk of a breach of the licence.*

3.1.4. Force Majeure

Should the Licensee or any of their agents, contractors or sub-contractors, by any reason of *force majeure* deposit anywhere in the marine environment any substance or object, then the Licensee must notify the Licensing Authority of the full details of the circumstances of the deposit within 48 hours of the incident occurring (failing which as soon as reasonably practicable after that period of 48 hours has elapsed). *Force majeure* may be deemed to apply when, due to stress of weather or any other cause, the master of a vessel or vehicle operator determines that it is necessary to deposit the substance or object other than at the Site because the safety of human life or, as the case may be, the vessel, vehicle or marine structure is threatened. Under Annex II, Article 7 of the Convention for the Protection of the Marine Environment of the North-east Atlantic, the Licensing Authority is obliged to immediately report *force majeure* incidents to the Convention Commission.

Reason: *To provide that in the event of a force majeure certain activity would not be criminal offence under the 2010 Act.*

3.1.5. Material alterations to the licence application

The Licensee must, where any information upon which the granting of this licence was based has, after the granting of the licence, altered in any material respect, notify the Licensing Authority of this fact, in writing, as soon as is practicable.

Reason: *To ensure that the Works are carried out in accordance with the Application documentation, in accordance with s.29(2)(a) of the 2010 Act.*

3.1.6. Submission of plans and specification of studies and surveys to the Licensing Authority

The Licensee must submit plans and the details and specifications of all studies and surveys that are required to be undertaken under this licence in relation to the Works, in writing, to the Licensing Authority, for their written approval. Commencement of the studies or surveys and implementation of plans must not occur until the Licensing Authority has given its written approval to the Licensee.

Plans or the specification of studies and surveys prepared pursuant to another consent or licence relating to the Works by the Licensee or by a third party may also be used to satisfy the requirements of this licence.

Reason: *To ensure that the Licensing Authority is kept informed on progress of the Works, in accordance with s.29(3)(c) of the 2010 Act.*

3.1.7. Submission of reports to the Licensing Authority

The Licensee must submit all reports and notifications to the Licensing Authority as are required under this licence within the time periods specified in this licence. Where it would appear to the Licensee that there may be a delay in the submission of the reports to the Licensing Authority, then the Licensee must advise the Licensing Authority of this fact as soon as is practicable and no later than the time by which those reports ought to have been submitted to the Licensing Authority under the terms of this licence.

The reports must include executive summaries, assessments and conclusions and any data must, subject to any rules permitting non-disclosure, be made publically available by the Licensing Authority or by any such party appointed at their discretion.

Reports prepared pursuant to another consent or licence relating to the Works by the Licensee or by a third party may also be used to satisfy the requirements of this licence.

Such reports will include, but not be limited to, Transport Audit sheets, deposits sheets and Marine Mammal Observer (“MMO”) reports.

Reason: *To ensure that all reports and notifications are submitted within a reasonable timescale after licence is granted, in accordance with s.29(3)(c) of the 2010 Act.*

3.1.8. Chemical usage

The Licensee must ensure that all chemicals which are to be utilised in the Works have been approved prior to use. All chemicals which are to be utilised in the Works must be selected from the List of Notified Chemicals assessed for use by the offshore oil and gas industry under the Offshore Chemicals Regulations 2002 (as amended) or as exempted. The Licensee must submit a report of all chemicals and quantities to be used (e.g. oils and fluorinated gases) during the construction, and operation of the Works to the Licensing Authority no later than one calendar month prior to the Commencement of the Works. Any changes to the types of chemicals which are proposed to be utilised must be consulted on with the Licensing Authority prior to the Commencement of the Works or, as the case may be, after the Commencement of the Works but prior to their utilisation.

Reason: *To minimise the environmental impact in the event of a release through the use of authorised chemicals in the interest of protecting the environment, in accordance with s.29(2)(b) of the 2010 Act.*

3.1.9. Fluorinated greenhouse gases

The Licensee must ensure that all equipment to be utilised in the Works that contains fluorinated greenhouse gases (hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and other greenhouse gases that contain fluorine, listed in Annex I of Regulation (EU) 517/2014 and The Fluorinated Greenhouse Gases Regulations 2015 (“the Regulations”), or

mixtures containing any of those substances) must take precautions to prevent the unintentional release ('leakage') of those gases. They must take all measures which are technically and economically feasible to minimise leakage of fluorinated greenhouse gases.

Where a leakage of fluorinated greenhouse gases is detected, the Licensee must ensure that the equipment is repaired without undue delay.

The Licensee must ensure that all equipment to be utilised in the Works that contains fluorinated greenhouse gases in quantities of 5 tonnes of CO₂ equivalent or more, and not contained in foams, must ensure that the equipment is checked for leaks in accordance with Annex 4 of the Regulations. Records of leak checks must be kept in accordance with Annex 6 of the Regulations. These records must be submitted to the Licensing Authority annually, and immediately in the event of discovery of any leak.

Where the equipment is subject to leak checks under Article 4(1) of the Regulations, and a leak in the equipment has been repaired, the Licensee must ensure that the equipment is checked by a certified person within one calendar month after the repair to verify that the repair has been effective. In such event, the Licensing Authority must be informed of the date of discovery, date of repair and date of inspection.

Reason: *To ensure compliance of the Works with Regulation (EU) 517/2014 and The Fluorinated Greenhouse Gases Regulations 2015, in accordance with s.29(2)(b) of the 2010 Act.*

3.1.10. Environmental protection

The Licensee must ensure that all reasonable, appropriate and practicable steps are taken at all times to avoid or minimise any damage to the Scottish marine area as a result of the undertaking of the Licensed Activities.

The Licensee must ensure that all personnel adhere to the Scottish Marine Wildlife Watching Code, where appropriate, during all installation, operation and maintenance activities authorised under this licence.

The Licensee must ensure that any debris or waste material placed below MHWS during the construction and operation of the Works is removed from the Site, as soon as is reasonably practicable, for disposal at a location above the MHWS approved by the Scottish Environment Protection Agency ("SEPA").

Prior to the Commencement of the Works the Licensee must agree with the Licensing Authority, in writing, the details of the appointment of a Marine Mammal Observer ("MMO"). When appointed, the MMO must, as a minimum, maintain a record of any sightings of marine mammals and maintain a record of the action taken to avoid any disturbance being caused to marine mammals during pre-construction and geophysical surveys and construction activities, as agreed in writing with the Licensing Authority. The

Licensee must provide the Licensing Authority with the MMO's records no later than one calendar month following Commencement of the Works, and at monthly intervals thereafter.

The Licensee must ensure that all substances and objects deposited during the execution of the Works are inert (or appropriately coated or protected so as to be rendered inert) and do not contain toxic elements which may be harmful to the marine environment, the living resources which it supports or human health.

The Licensee must ensure that the risk of transferring marine non-native species to and from the Site is kept to a minimum by ensuring appropriate bio-fouling management practices are implemented during the Works.

The Licensee must ensure that if oil based drilling muds are utilised they must be contained within a zero discharge system. Any drill cuttings associated with the use of water-based drilling muds situated within the Site of the Works need not be removed from the seabed.

Reason: *To ensure environmental impacts are minimised, in accordance with s.29(2)(b) of the 2010 Act.*

3.1.11. Availability of the licence for inspection

The Licensee must ensure that copies of this licence and any subsequent amendments or variations are available for inspection at any reasonable time by any authorised marine enforcement officer at:

- a) the premises of the Licensee;
- b) the premises of any agent, contractor or sub-contractor acting on behalf of the Licensee;
- c) any onshore premises directly associated with the Works; and
- d) aboard any vessel engaged in the Works.

Reason: *To ensure the licence is available for the purpose of inspection, in accordance with s.29(2)(b) of the 2010 Act.*

3.1.12. Inspection of the Works

Any persons authorised by the Licensing Authority, must be permitted to inspect the Works at any reasonable time. The Licensee must, as far as reasonably practicable, on being given reasonable notice by the Licensing Authority (of at least 72 hours), provide transportation to and from the Site for any persons authorised by the Licensing Authority to inspect the Site.

Reason: *To ensure access to the Site for the purpose of inspection, in accordance with s.29(2)(b) of the 2010 Act.*

3.1.13. Emergencies

If the assistance of a Government Department (to include departments of Administrations other than the Scottish Government) is required to deal with any emergency arising from:

- a) the failure to mark and light the Works as required by this licence;
- b) the maintenance of the Works; or
- c) the drifting or wreck of the Works

to include the broadcast of navigational warnings, then the Licensee is liable for any expenses incurred in securing such assistance.

Reason: *To ensure the Licensee is aware of financial liabilities, in accordance with s.29(2)(b) of the 2010 Act.*

3.2. Conditions specific to the Works

3.2.1. Conditions applicable to all phases of the Works

3.2.1.1. Serious Incident Reporting

In the event of any breach of health and safety or environmental obligations relating to the Works during the period of this licence, the Licensee must provide written notification of the nature and timing of the incident to the Licensing Authority, including confirmation of remedial measures taken and/or to be taken to rectify the breach, within 24 hours of the incident occurring.

Reason: *To keep the Scottish Ministers informed of any such incidents which may be in the public interest, in accordance with s.29(3)(c) of the 2010 Act.*

3.2.1.2. Bunding and storage facilities

The Licensee must ensure suitable bunding and storage facilities are employed to prevent the release of fuel oils and lubricating fluids associated with the plant and equipment into the marine environment.

Reason: *To ensure pollution prevention is undertaken, in accordance with s.29(2)(b) of the 2010 Act.*

3.2.1.3. Restoration of the Site to its original condition

The Licensee must take all reasonable, appropriate and practicable steps to restore the Site to its original condition before the Works were undertaken, or to as close to its original condition as is reasonably practicable, in accordance with the Project Environmental Monitoring Plan (“PEMP”) and the Decommissioning Programme (“DP”) to the satisfaction of the Licensing Authority. Should the Works be discontinued prior to Completion of the Works, the Licensee must inform the Licencing Authority in writing of the

discontinuation of the Works. A separate marine licence is required for the removal of Works.

Reason: *To mitigate the effects of the activity on the Site, in accordance with s.29(3)(e) of the 2010 Act.*

3.2.1.4. Emergency Response Co-operation Plans (“ERCoP”)

The Licensee must, in discussion with the Maritime and Coastguard Agency’s (“MCA”) Search and Rescue Branch, complete an Emergency Response Co-operation Plan (“ERCoP”) for the construction and operation phases. The ERCoP should include full details for the construction and operation phases of the authorised scheme in accordance with MCA recommendations contained within Marine Guidance Notice (“MGN”) 543 (or subsequent updates). A copy of the final plan must be submitted to the Licensing Authority no later than 6 calendar months, or at such a time as agreed with the Licensing Authority, prior to the Commencement of the Works.

Reason: *To ensure the Licensing Authority is aware of the ERCoP, in accordance with s.29(3)(c) of the 2010 Act.*

3.2.2. Prior to the Commencement of the Works

3.2.2.1. Commencement date of the Works

The Licensee must, prior to and no less than 1 calendar month before the Commencement of the Works, notify the Licensing Authority, in writing, of the date of Commencement of the Works authorised under this licence.

Reason: *To inform the Licensing Authority of the date of the Works, in accordance with s.29(3)(c) of the 2010 Act.*

3.2.2.2. Third Party Certification or Verification

The Licensee must, no later than 6 calendar months prior to the Commencement of the Works, or at such a time as agreed with the Licensing Authority, provide the Licensing Authority with Third Party Certification (“TPC”) or Verification (“TPV”) (or suitable alternative as agreed, in writing, with the Licensing Authority) for all Tidal Energy Converter (“TEC”) foundations and TECs. The TPC or TPV must include verification that the equipment deployed has suitable buoyage to ensure that the equipment is capable of remaining on station following consultation with the Northern Lighthouse Board (“NLB”).

Reason: *To provide independent certification or verification of the technology, materials or equipment, in accordance with s.29(2)(b) of the 2010 Act.*

3.2.2.3. Navigation and Charting

The Licensee must, no later than 7 days prior to Commencement of the Works, notify the UK Hydrographic Office (“UKHO”) of the proposed Works to facilitate the promulgation of maritime safety information and updating of Admiralty charts and publications through the national Notice to Mariners system.

The Licensee must submit a Navigational Safety Risk Assessment (“NRSA”) and a Navigation Risk Assessment (“NRA”) to the Licensing Authority, for their written approval, following consultation with MCA and NLB.

The Licensee must, no later than 7 days prior to the Commencement of the Works, ensure that local mariners, fishermen's organisations and HM Coastguard, in this case Belfast Coastguard Operations Centre, are made fully aware of the Works through local Notice to Mariners or any other appropriate means.

The Licensee must ensure that details of the Works are promulgated in the Kingfisher Fortnightly Bulletin, prior to Commencement of the Works to inform the Sea Fish Industry of the vessel routes, the timings and the location of the Works and of the relevant operations.

The Licensee must, prior to Commencement of the Works, complete an “Application for Statutory Sanction to Alter/Exhibit” form and submit this to the NLB for the necessary sanction to be granted.

The Licensee must, prior to and no later than one calendar month before the Commencement of the Works, notify the Clyde Cruising Club of the vessel routes, the timings and the location of the Works and of the relevant operations, to permit the updating of their Sailing Directions and Anchorages publications.

The Licensee must notify the Defence Geographic Centre (“DGC”) (mail to dvof@mod.uk) of the locations, heights and lighting status of the turbines, the estimated dates of construction and the maximum height of any construction equipment to be used, at least 10 weeks prior to the Commencement of the Works, to allow for the appropriate notification to the relevant aviation communities. The DGC must be updated when the actual dates of construction are known.

Reason: *To reduce the navigational risk to other legitimate users of the sea, in accordance with s.29(2)(b) of the 2010 Act.*

3.2.2.4. Noise Registry

The Licensee must complete and submit a Proposed Activity Form in the online Marine Noise Registry for all aspects of the Works that will produce loud, low to medium frequency (10Hz-10kHz) impulsive noise no later than 7 days prior to Commencement of the Works. If any aspects of the Works

differ from the Proposed Activity Form in the online Marine Noise Registry, the Licensee must complete and submit a new Proposed Activity Form no later than 7 days prior to Commencement of the Works.

Reason: *To ensure compliance with reporting requirements on marine noise, in accordance with s.29(3)(c) of the 2010 Act*

3.2.3. During the Works

3.2.3.1. Transportation audit sheet

The Licensee must, within 14 days of the end of each calendar month, submit to the Licensing Authority a detailed transportation audit sheet for each calendar month during the period when construction of the Works is undertaken. It must cover all aspects of the construction of the Works. The transportation audit sheet must include, but not be limited to, information on the loading facility, vessels, equipment, shipment routes, schedules and all materials deposited (as described in Part 2 of this licence) in that calendar month. Where, following the submission of a transportation audit sheet to the Licensing Authority, any alteration is made to the component parts of the transportation audit sheet, the Licensee must notify the Licensing Authority of the alteration in the following month's transportation audit sheet.

If the Licensee becomes aware of any substances or objects on the transportation audit sheet that are missing, or becomes aware that an accidental deposit has occurred, the Licensee must contact the Licensing Authority as soon as practicable after becoming aware, for advice on the appropriate remedial action (which may include requiring charts to be amended to show such deposits). Should the Licensing Authority deem it necessary, the Licensee must undertake a side scan sonar survey in grid lines (within operational and safety constraints) across the area of the Works, to include cable routes and vessel access routes from local service port(s) to the Site to locate the substances or objects. If the Licensing Authority is of the view that any accidental deposits associated with the construction of the Works are present, then the deposits must be removed by the Licensee as soon as is practicable following the giving of such a view by the Licensing Authority, and at the Licensee's expense.

Reason: *To confirm that the deposits made were in accordance with the Application documentation, and that any accidental deposits are recovered or charted appropriately in accordance with s.29(3)(c) of the 2010 Act.*

3.2.3.2. Nature and quantity of deposited substances and objects

The Licensee must, in addition to the transportation audit sheets required to be submitted to the Licensing Authority under condition 3.2.3.1 following the Commencement of the Works, submit audit reports, in writing, to the Licensing Authority, stating the nature and quantity of all substances and objects deposited below MHWs under the authority of this licence. Such

audit reports must be submitted by the Licensee at monthly intervals, with the first such report being required to be submitted on a date no later than 1 calendar month following the Commencement of the Works. Where appropriate, nil returns must be provided.

Reason: *To confirm that the deposits made were in accordance with the Application documentation, in accordance with s.29(3)(c) of the 2010 Act.*

3.2.3.3. Navigational safety

The Licensee must notify the UKHO of the progress of the Works to facilitate the promulgation of maritime safety information and updating of Admiralty charts and publications through the national Notice to Mariners system.

The Licensee must notify local mariners, fishermen's organisations and HM Coastguard, in this case Belfast Coastguard Operations Centre, of the progress of the Works through local Notice to Mariners or any other appropriate means.

The Licensee must ensure that the progress of the Works is promulgated in the Kingfisher Fortnightly Bulletin to inform the Sea Fish Industry of the vessel routes, the timings and the location of the Works and of the relevant operations.

The Licensee must notify the Clyde Cruising Club of the progress of the Works.

The Licensee must, in the case of damage to, or destruction or decay of, the Works, notify the Licensing Authority, in writing, as soon as reasonably practicable following such damage, destruction or decay. The Licensee must carry out any remedial action as required by the Licensing Authority and intimated to the Licensee, in writing, which may include any requirement to display aids to navigation, following consultation with the MCA, the NLB or any such advisors as required by the Licensing Authority.

The Licensee must ensure that any vessels permitted to engage in the Works are marked in accordance with the International Rules for the Prevention of Collisions at Sea whilst under way and in accordance with the UK Standard Marking Schedule for Offshore Installations if the vessel is secured to the seabed.

The Licensee must ensure that no radio beacon or radar beacon operating in the marine frequency bands is installed or used on the Works without the prior written approval of the Office of Communications (“OfCom”).

The Licensee must ensure that navigable depth is not altered by more than 5% referenced to Chart Datum unless otherwise agreed, in writing, with the Licensing Authority in consultation with the MCA and NLB.

Reason: *To reduce the navigational risk to other legitimate users of the sea, in accordance with s.29(2)(b) of the 2010 Act.*

3.2.3.4. Markings, lighting and signals of the Works and Jack up vessels

The Company must, no later than 6 months prior to the Commencement of the Development, or at such a time as agreed with the Scottish Ministers, submit a Lighting and Marking Plan (“LMP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with ABC, MCA, NLB, RSPB Scotland and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers. The LMP must also detail the navigational lighting requirements detailed in IALA Recommendation O-139 or any other documents that may supersede said guidance prior to approval of the LMP.

The Company must provide the LMP, for information, to DGC, SNH and any other bodies as may be required at the discretion of the Scottish Ministers.

The Licensee must ensure that the Works are marked and lit in accordance with the requirements of the NLB at all times and such markings and/or lighting must be continued unless and until such time as the Licensing Authority, by notice, relevantly varies this licence under section 30(3)(c) of the 2010 Act.

The Licensee must not display any marks and lights additional to those required by virtue of this licence and as agreed in the Lighting and Marking Plan (“LMP”) without the written approval of the Licencing Authority following consultation with the NLB.

Reason: *To ensure safe appropriate marking and lighting of the offshore Works, in accordance with s.29(2)(b) of the Marine (Scotland) Act 2010.*

3.2.4. Conditions upon Completion of the Works

3.2.4.1. Date of Completion of the Works

The Licensee must, no later than 1 calendar month following the Completion of the Works, notify the Licensing Authority, in writing, of the date of Completion of the Works.

Reason: *To inform the Licensing Authority of the Completion of the Works, in accordance with s.29(3)(c) of the 2010 Act.*

3.2.4.2. Final Commissioning of the Works

The Licensee must, no later than 1 calendar month following the Final Commissioning of the Works, notify the Licensing Authority, in writing, of the date of the Final Commissioning of the Works.

Reason: To inform the Licensing Authority of the Final Commissioning of the Works, in accordance with s.29(3)(c) of the 2010 Act.

3.2.4.3. Navigational safety

The Licensee must notify the UKHO of the Completion of the Works to facilitate the promulgation of maritime safety information and updating of Admiralty charts and publications through the national Notice to Mariners system.

The Licensee must, within 1 calendar month of the Completion of the Works, provide the “as-built” positions and maximum heights of all TECs, along with any sub-sea infrastructure, to the UKHO for nautical charting purposes.

The Licensee must ensure that local mariners, fishermen's organisations and HM Coastguard, in this case Belfast Coastguard Operations Centre, are made fully aware of the Completion of the Works.

The Licensee must ensure that the Completion of the Works is promulgated in the Kingfisher Fortnightly Bulletin to inform the Sea Fish Industry.

The Licensee must ensure that the Clyde Cruising Club are made fully aware of the Completion of the Works.

The Licensee must, where any damage, destruction or decay is caused to the Works, notify the Licensing Authority, in writing, of such damage, destruction or decay as soon as reasonably practicable following such damage, destruction or decay. The Licensee must carry out any remedial action which the Licensing Authority advises the Licensee, in writing, as requiring to be taken, which may include a requirement to display aids to navigation, following consultation with the MCA, the NLB or any such advisers as required.

The Licensee must ensure that no radio beacon or radar beacon operating in the Marine frequency bands is installed or used on the Works without the prior written approval of OfCom.

As per the requirements of MCA's MGN 543 and supplementary updates, the Licensee must complete post-installation hydrographic surveys of the consented area or subsections thereof, to the IHO Order 1a survey standard. On completion of these surveys the data and a corresponding report of survey must be supplied to the UKHO, with notification to the MCA Hydrography Manager.

The Licensee must not exhibit, alter and discontinue navigational lighting of the Works without the Statutory Sanction of the Commissioners of Northern Lighthouses. An 'Application for Statutory Sanction to Exhibit/Discontinue' form must be completed by the Licensee as fully as possible and returned to

the NLB via e-mail to navigation@nlb.org.uk for the necessary sanction to be granted prior to exhibiting, altering or discontinuing navigational lighting.

Reason: *To reduce the navigational risk to other legitimate users of the sea, in accordance with s.29(2)(b) of the 2010 Act.*

3.2.4.4. Nature and quantity of deposited substances and objects

The Licensee must, no later than 1 calendar month following the Completion of the Works, submit a final audit report, in writing, to the Licensing Authority stating the nature and quantity of all substances and objects deposited below MHWS within the Scottish marine area under the authority of this licence. Where appropriate, nil returns must be provided.

Reason: *To confirm that the deposits made are in accordance with the Application documentation, in accordance with s.29(3)(c) of the 2010 Act.*

3.2.4.5. Markings, lighting and signals of the Works

The Licensee must ensure that the Works are marked and lit in accordance with the agreed LMP and the requirements of the NLB at all times and such marking and/or lighting must be continued unless and until such time as the Licensing Authority, by notice, relevantly varies this licence under section 30 of the 2010 Act.

The Licensee must ensure that the Works are marked and lit in accordance with IALA Recommendation O-139.

Reason: *To ensure safe appropriate marking and lighting of the offshore Works, in accordance with s.29(2)(b) of the 2010 Act.*

3.2.4.6. Noise Registry Close Out

The Licensee must complete and submit a Close-out Report for all aspects of the Works that produced loud, low to medium frequency (10Hz-10kHz) impulsive noise in the online Marine Noise Registry no later than 12 weeks following the Completion of the Works.

Reason: *To ensure compliance with reporting requirements on marine noise, in accordance with s.29(3)(c) of the 2010 Act.*

3.2.4.7. Operation and Maintenance of the Works

The Licensee must operate and maintain the Works in accordance with the approved OMP.. In the event that any additional deposits are required, and where these works were not assessed in the Application and are considered by the Licencing Authority as being material they will require further marine licence/s.

Reason: *To ensure compliance with the approved OMP to prevent decay of the Works and to ensure that any maintenance work is carried out under an appropriate licence in accordance with s.29(3)(b) of the 2010 Act.*

3.2.4.8. Decommissioning

This licence does not permit the Decommissioning of the Works, for which a separate marine licence is required.

Reason: *To ensure that decommissioning is carried out according to the approved Decommissioning Programme under an appropriate licence, in accordance with s.29(3)(d) of the 2010 Act*

10 Section 36 conditions

The consent granted under Section 36 of the Electricity Act 1989 is subject to the following conditions:

The Company must submit the requested plans as detailed in the conditions prior to the Commencement of the Development, in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with any such advisors or organisations as detailed in the conditions, or as may be required at the discretion of the Scottish Ministers.

The Development must, at all times, be constructed and operated in accordance with the approved plans, as updated or amended.

Any updates or amendments made to the approved plans must be submitted, in writing, to the Scottish Ministers for their prior written approval.

The Company must satisfy themselves that all contractors or sub-contractors are aware of the extent of the Development for which this consent has been granted, the activity which is consented and the terms of the conditions attached to this consent. All contractors and sub-contractors permitted to engage in the Development must abide by the conditions set out in this consent.

The Company must ensure that all personnel adhere to the Scottish Marine Wildlife Watching Code, where appropriate, during all installation, operation and maintenance activities.

1. Duration of the Consent

The consent is for a period of 25 years from the Date of Final Commissioning of the first Tidal Energy Converter (“TEC”).

Written confirmation of the Date of the Final Commissioning of the first Tidal Energy Converter (“TEC”) must be provided by the Company to the Scottish

Ministers, Argyll and Bute Council (“ABC”) and Scottish Natural Heritage (“SNH”) no later than one calendar month after the Date of Final Commissioning of the first TEC.

Reason: To define the duration of the consent.

2. Commencement of Development

The Commencement of the Development must be no later than five years from the date of this consent, or in substitution such other period as the Scottish Ministers may hereafter agree and confirm in writing with the Company. Written confirmation of the intended date of Commencement of Development must be provided to ABC and Scottish Ministers no later than one calendar month before that date or at such a time as agreed with Scottish Ministers.

Reason: To ensure that the Commencement of the Development is undertaken within a reasonable timescale after consent is granted.

3. Redundant turbines

In the event that, for a continuous period of 6 months or more, any TEC installed and commissioned and forming part of the Development fails to produce electricity on a commercial basis to the National Grid then, unless otherwise agreed in writing by the Scottish Ministers and after consultation with the Company and any advisors as required at the discretion of the Scottish Ministers, any such TEC may be deemed by the Scottish Ministers to cease to be required. If so deemed, the TEC (together with any related infrastructure) must, within a period of 12 months from the date of the deeming decision by the Scottish Ministers, be decommissioned and the area of the Site upon which the TEC is located must be reinstated by the Company in accordance with the procedures laid out within the Company’s DP.

Reason: To ensure that any redundant TECs are removed from the Site in the interests of safety, amenity and environmental protection.

4. Assignment

This consent may not be assigned without the prior written authorisation of the Scottish Ministers. The Scottish Ministers may authorise the assignment of the consent or refuse assignment as they may see fit. The consent is not capable of being assigned, alienated or transferred otherwise than in accordance with the foregoing procedure. The Company must notify ABC in writing, of the name of the assignee, principal named contact and contact details within 14 days of written confirmation from the Scottish Ministers of an assignment having been granted.

Reason: To safeguard the obligations of the consent if transferred to another company.

5. Incident Reporting

In the event of any breach of health and safety or environmental obligations relating to the Development during the period of this consent, the Company must provide written notification of the nature and timing of the incident to the Scottish Ministers, including confirmation of remedial measures taken, and/or to be taken, to rectify the breach, within 24 hours of the incident occurring.

Reason: *To keep the Scottish Ministers informed of any such incidents which may be in the public interest.*

6. Implementation in accordance with approved plans and requirements of this consent

Except as otherwise required by the terms of this consent, the Development must be constructed and operated in accordance with the Application, the Environmental Statement (“ES”) and any other documentation lodged in support of the Application.

Reason: *To ensure that the Development is carried out in accordance with the approved details.*

7. Construction Programme

The Company must, no later than 6 months prior to the Commencement of the Development, or at such a time as agreed with the Scottish Ministers, submit a Construction Programme (“CoP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the ABC, the Maritime and Coastal Agency (“MCA”), Ministry of Defence (“MoD”), the Northern Lighthouse Board (“NLB”), the Scottish Environment Protection Agency (“SEPA”), SNH, Whale and Dolphin Conservation (“WDC”) and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The CoP must set out, but not be limited to:

- a. the proposed date for Commencement of Development;
- b. the proposed timings for mobilisation of plant and delivery of materials, including details of onshore lay-down areas;
- c. the proposed timings and sequencing of construction work for all elements of the Development infrastructure;
- d. contingency planning for poor weather or other unforeseen delays; and
- e. the scheduled date for Final Commissioning of the Development.

The Company must, prior to the Commencement of the Development, provide a copy of the final CoP, and any subsequent revisions as agreed by the Scottish Ministers, to the Defence Geographic Centre (“DGC”).

Reason: *To confirm the timing and programming of construction.*

8. Construction Method Statement

The Company must, no later than 6 months prior to the Commencement of the Development, or at such a time as agreed with the Scottish Ministers, submit a Construction Method Statement (“CMS”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with ABC, MCA, MoD, NLB, SEPA, SNH, WDC and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The CMS must include, but not be limited to:

- a. the construction procedures and good working practices for installing the Development;
- b. commencement dates, duration and phasing for key elements of construction;
- c. details of the roles and responsibilities, chain of command and contact details of company personnel, any contractors or sub-contractors involved during the construction of the Development;
- d. details of how the construction related mitigation steps proposed in the ES are to be delivered;
- e. a waste management plan for the construction phase of Development; and
- f. hydrodynamic monitoring which will be used to inform the final locations of the tidal turbines.

The CMS must adhere to the construction methods assessed in the Application and the ES. The CMS also must, so far as is reasonably practicable, be consistent with the the Cable Plan (“CaP”), Environmental Management Plan (“EMP”), Lighting and Marking Plan (“LMP”), the Navigational Safety Plan (“NSP”), the Piling Strategy (“PS”) and the Vessel Management Plan (“VMP”).

Reason: *To ensure the appropriate construction management of the Development, taking into account mitigation measures to protect the environment and other users of the marine area.*

9. Underwater Noise

The Company must cease operation of the installed turbines where the noise emissions from the operation of the Development exceed a Broadband noise maximum level of 115dB in Sea state 1, at a line of arc extending between 220 to 270 nautical degrees, located 5 nautical miles west of the centre point of the Development, and where such noise emissions are deemed, by the MoD, to interfere with or otherwise adversely affect defence submarine navigational interests.

Where, under this condition, the operation of the Development ceases, then mitigation to reduce noise emissions to the prescribed maximum threshold, or to an alternative level above the maximum, as agreed by Scottish Ministers following consultation with the MoD and any other such consultee, as identified by Scottish Ministers, must be put in place before the installed turbines may resume functioning.

After any such mitigation has been put in place, the Company must ensure that the level of noise emissions from the Development has been reduced to agreed limits, and to Scottish Ministers' satisfaction, through the collection and presentation of noise emission measurements by the Company to the Scottish Ministers on a monthly basis, to be agreed by Scottish Ministers in consultation with the MoD.

Reason: *To ensure that defence submarine navigational interests are not impeded in any way.*

10. Marine Mammal Observer

Prior to the Commencement of the Development, the Company must confirm the appointment of a Marine Mammal Observer (“MMO”). When appointed, the MMO must, as a minimum, maintain a record of any sightings of marine mammals and basking sharks, and maintain a record of the action taken to avoid any disturbance being caused to marine mammals and basking sharks during pre-construction, geophysical surveys and construction activities. The MMO must check for marine mammals and basking sharks prior to the commencement of any drilling activity and cable laying, including for seals in relation to the export cable. The Company must provide the Scottish Ministers with the MMO's records no later than one calendar month following Commencement of the Works, and at monthly intervals thereafter.

Reason: *To ensure effective monitoring of and compliance with environmental mitigation measures associated with the Development.*

11. Piling Strategy

In the event that pile foundations are to be used, the Company must, no later than 6 months or at such a time as agreed with the Scottish Ministers, prior to the Commencement of the Works, submit a Piling Strategy (“PS”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with SNH, WDC and any such other advisors as may be required at the discretion of the Scottish Ministers.

The PS must include, but not be limited to:

- a. details of expected noise levels from piling in order to inform point c below;
- b. full details of the proposed method and anticipated duration of piling to be carried out at all locations;

- c. details of soft-start piling procedures and anticipated maximum piling energy required at each pile location;
- d. details of any mitigation and monitoring to be employed during piling, as agreed by the Scottish Ministers; and
- e. details of the role and the responsibilities of the MMO during construction activities.

The PS must be in accordance with the Application and must also reflect any monitoring or data collection carried out after submission of the Application. The PS must demonstrate how the exposure to and/or the effects of underwater noise have been mitigated in respect to cetaceans and seals.

The PS must, so far as is reasonably practicable, be consistent with the EMP, the Project Environmental Monitoring Programme (“PEMP”) and the Construction Environmental Management Plan (“CMS”).

Reason: *To mitigate the underwater noise impacts arising from piling activity.*

12. Development Specification and Layout Plan

The Company must, no later than 6 months prior to the Commencement of the Development, or at such a time as agreed with the Scottish Ministers, submit a Design Specification and Layout Plan (“DSLPL”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation with ABC, Islay Community Council (“ICC”), MCA, MoD, NLB, RSPB Scotland, SNH and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The DSLPL must include, but not be limited to:

- a. a plan showing the location of each individual TEC (subject to any required micro-siting), including information on TEC spacing, TEC identification / numbering, seabed conditions, bathymetry, confirmed foundation type for each TEC and any key constraints recorded on the Site;
- b. a list of latitude and longitude co-ordinates accurate to three decimal places of minutes of arc for each TEC. This should also be provided as a Geographic Information System (“GIS”) shape file using the World Geodetic System 1984 (“WGS84”) format;
- c. a table or diagram of each TEC dimensions including: height to blade tip (measured above Lowest Astronomical Tide (“LAT”)) to the highest point; height to hub (measured above LAT to the centreline of the generator shaft or measured from the seabed); blade tip to surface (measured at LAT); rotor diameter and maximum rotation speed;
- d. the generating capacity of each TEC used on the Site (Annex 1, Figure) and a confirmed generating capacity for the Site overall;
- e. the finishes for each TEC, colour and lighting and marking (see condition 20);

- f. the length and proposed laying arrangements on the seabed of all inter-array cables; and
- g. hydrodynamic monitoring which will be used to inform the final locations of the tidal turbines.

Reason: *To confirm the final Development specification and layout.*

13. Design Statement

The Company must, no later than 6 months prior to the Commencement of the Development, or at such a time as agreed with the Scottish Ministers, submit a Design Statement ("DS"), in writing, to the Scottish Ministers. The DS, which must be signed off by at least one qualified landscape architect as instructed by the Company prior to submission to the Scottish Ministers, must include representative visualisations, if surface piercing or laying TEC are to be utilised, from key viewpoints agreed with the Scottish Ministers, based upon the final DSLP as approved by the Scottish Ministers, as updated or amended. The Company must provide the DS, for information only, to ABC, ICC, MCA, MoD, NLB, RSPB Scotland, SNH and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

Reason: *To ensure that the Development is carried out in accordance with the approved details, and to inform interested parties of the final tidal turbine array proposed to be built.*

14. Environmental Management Plan

The Company must, no later than 6 months prior to the Commencement of the Development, or at such a time as agreed with the Scottish Ministers, submit an Environmental Management Plan ("EMP"), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with ABC, RSPB Scotland, SEPA, SNH, WDC and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The EMP must provide the over-arching framework for on-site environmental management during the phases of development as follows:

- i. all construction as required to be undertaken before the Final Commissioning of the Development; and
- ii. the operational lifespan of the Development from the Final Commissioning of the Development until the cessation of electricity generation. (Environmental management during decommissioning is addressed by the Decommissioning Programme).

The EMP must be in accordance with the ES insofar as it relates to environmental management measures. The EMP must set out the roles, responsibilities and chain of command for the Company personnel, any contractors or sub-contractors in respect of environmental management for the protection of environmental interests during the construction and

operation of the Development. It must address, but not be limited to, the following over-arching requirements for environmental management:

- a. mitigation measures to prevent significant adverse impacts to environmental interests, as identified in the ES, pre-consent and pre-construction monitoring or data collection, and include the relevant parts of the CMS and VMP;
- b. a pollution prevention and control method statement, including contingency plans;
- c. management measures to prevent the introduction of invasive non-native marine species;
- d. the reporting mechanisms that will be used to provide the Scottish Ministers and relevant stakeholders (including, but not limited to ABC, RSPB Scotland, SEPA, SNH and WDC) with regular updates on construction activity, including any environmental issues that have been encountered and how these have been addressed;
- e. the process for how each and all contractors and sub-contractors will be made aware of environmental sensitivities, what requirements they are expected to adhere to and how chains of command will work; and
- f. an underwater noise mitigation plan to understand and minimise the potential impacts of noise created during construction.

The Company must, no later than 6 months prior to the Final Commissioning of the Development or at such a time as agreed with the Scottish Ministers, submit an updated EMP to cover the operation and maintenance activities for the Development, in writing to the Scottish Ministers for their written approval. Such approval may be given only following consultation by the Scottish Ministers with ABC, RSPB Scotland, SEPA, SNH, WDC and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The EMP must be regularly reviewed by the Company and the Scottish Ministers, at intervals agreed by the Scottish Ministers. Reviews must include, but not be limited to, the reviews of updated information on construction methods and operations of the Development and updated working practices.

The EMP must be informed, so far as is reasonably practicable, by the baseline monitoring or data collection undertaken as part of the Application and the PEMP.

Reason: *To ensure that all construction and operation activities are carried out in a manner that minimises their impact on the environment, and that mitigation measures contained in the ES, or as otherwise agreed are fully implemented.*

15. Vessel Management Plan

The Company must, no later than 6 months prior to the Commencement of the Development, or at such a time as agreed with the Scottish Ministers,

submit a Vessel Management Plan (“VMP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with MCA, SNH and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The VMP must include, but not be limited to, the following details:

- a. the number, types and specification of vessels which are required;
- b. how vessel management will be co-ordinated, particularly during construction but also during operation;
- c. location of working port(s), how often vessels will be required to transit between port(s) and the Site and indicative vessel transit corridors proposed to be used during construction and operation of the Development; and
- d. name and role of each vessel used for laying the export cable, along with details on timing, duration and methods for cable laying.

The confirmed individual vessel details must be notified to the Scottish Ministers in writing no later than 14 days prior to the Commencement of the Development or at such a time as agreed with the Scottish Ministers, and, thereafter, any changes to the details supplied must be notified to the Scottish Ministers, as soon as practicable, prior to any such change being implemented in the construction or operation of the Development.

The VMP must, so far as is reasonably practicable, be consistent with the CMS, EMP, LMP, NSP and PEMP.

Reason: To mitigate disturbance or impact to marine mammals and birds.

16. Operation and Maintenance Programme

The Company must, no later than 6 months prior to the Commissioning of the first TEC, or at such a time as agreed with the Scottish Ministers, submit an Operation and Maintenance Programme (“OMP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with ABC, MCA, NLB, SEPA, SNH and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The OMP must set out the procedures and good working practices for operations and the maintenance of the TECs, substructures, and inter-array cable network of the Development. Environmental sensitivities which may affect the timing of the operation and maintenance activities must be considered in the OMP.

The OMP will detail how each and all contractors and sub-contractors will be made aware of the environmental sensitivities, what requirements they are expected to adhere to and how chains of command will work during operation and maintenance activities.

The OMP must be regularly reviewed by the Company and the Scottish Ministers, at intervals agreed by the Scottish Ministers. Reviews must include, but not be limited to, the reviews of updated information on operation and maintenance activities.

The OMP must, so far as is reasonably practicable, be consistent with the CaP, EMP, LMP, NSP, PEMP and VMP.

Reason: *To safeguard environmental interests during operation and maintenance of the offshore generating station.*

17. Cable Plan

The Company must, no later than 6 months prior to the Commencement of the Development, or at such a time as agreed with the Scottish Ministers, submit a Cable Plan (“CaP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with ABC, Clyde Fishermen’s Association (“CFA”), MCA, The Scottish Fisherman’s Federation (“SFF”), SNH and any such other advisors or organisations as may be required at the discretion of the Scottish Ministers.

The CaP must be in accordance with the ES.

The CaP must include, but not be limited to, the following:

- a. the location and cable laying techniques for the inter array cables;
- b. the results of monitoring or data collection work (including local fishers knowledge of the seabed and fishing activity, geophysical, geotechnical and benthic surveys with particular focus on maerl beds and burrowed soft muds with seapens) which will help inform cable routing;
- c. cable route mitigation measures to avoid maerl beds and burrowed soft muds with seapens;
- d. technical specification of inter array cables including a desk based assessment of attenuation of electro-magnetic field strengths and shielding;
- e. a burial risk assessment to ascertain burial depths and, where necessary, alternative protection measures;
- f. methodologies for surveys (e.g. over trawl) of the inter array cables through the operational life of the Development where mechanical protection of cables laid on the sea bed is deployed;
- g. methodologies for inter array cable inspection with measures to address and report to the Scottish Ministers any exposure of cables.

Any consented cable protection works must ensure existing and future safe navigation is not compromised. The Scottish Ministers will accept a maximum of 5% reduction in surrounding depth referenced to Chart Datum.

Reason: *To ensure all environmental and navigational issues are*

considered for the location and construction of the inter array cables.

18. Navigational Safety Plan

The Company must, no later than 6 months prior to the Commencement of the Development, or at such a time as agreed with the Scottish Ministers, submit a Navigational Safety Plan (“NSP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with MCA, NLB, SFF and any other navigational advisors or organisations as may be required at the discretion of the Scottish Ministers.

The NSP must include, but not be limited to, the following issues:

- a. navigational safety measures;
- b. device specific Navigational Risk Assessment (“NRA”);
- c. construction exclusion zones;
- d. notice(s) to Mariners and Radio Navigation Warnings;
- e. anchoring areas;
- f. temporary construction lighting and marking;
- g. emergency response and coordination arrangements in the form of an Emergency Response Cooperation Plan (“ERCoP”) for the construction, operation and decommissioning phases of the Development and to be in accordance with condition 3.2.1.4 of the marine licence; and
- h. buoyage.

The Company must confirm within the NSP that they have taken into account and adequately addressed all of the recommendations of the MCA in the current Marine Guidance Note 543 (“MGN 543”), and its annexes that may be appropriate to the Development, or any other relevant document which may supersede said guidance prior to the approval of the NSP.

Reason: To mitigate the navigational risk to other legitimate users of the sea.

19. Project Environmental Monitoring Programme

The Company must, no later than 6 months prior to the Commencement of the Development, or at such a time as agreed with the Scottish Ministers, submit a Project Environmental Monitoring Programme (“PEMP”), in writing, to the Scottish Ministers for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with the Association of Salmon Fishery Boards (“ASFB”), RSPB Scotland, SNH, WDC and any other ecological advisors or organisations as required at the discretion of the Scottish Ministers. The PEMP must be in accordance with the Application insofar as it relates to environmental monitoring.

The PEMP must set out measures by which the Company must monitor the environmental impacts of the Development. Monitoring is required

throughout the lifespan of the Development where this is deemed necessary by the Scottish Ministers. Lifespan in this context includes pre-construction, construction, operational and decommissioning phases.

The Scottish Ministers must approve all initial methodologies for the above monitoring, in writing.

Monitoring must be done in such a way as to ensure that the data which is collected allows useful and valid comparisons between different phases of the Development. Monitoring may also serve the purpose of verifying key predictions in the Application. In the event that further potential adverse environmental effects are identified, for which no predictions were made in the Application, the Scottish Ministers may require the Company to undertake additional monitoring.

The PEMP must cover, but not be limited to the following matters:

- a. pre-construction, construction (if considered appropriate by the Scottish Ministers) and post-construction monitoring or data collection as relevant in terms of the ES and any subsequent monitoring or data collection for:
 - i. birds;
 - ii. mobile marine species (e.g marine mammals and basking sharks); and
 - iii. diadromous fish;
- b. the methodology to record and report noise levels from pile drilling and construction to be carried out in relation to marine mammals; and
- c. the participation and contribution to be made by the Company to data collection or monitoring of wider strategic relevance, identified and agreed by the Scottish Ministers, and to include but not be necessarily limited to:
 - i. the interaction of diving birds (in particular Wintering auks) around operational turbines;
 - ii. the avoidance behaviour of diadromous fish;
 - iii. the avoidance behaviour of mobile marine species including marine mammals and basking sharks;
 - iv. the survival and productivity of the nearest auk breeding cliffs on Islay;
 - v. changes in site use at grey and harbour seal SACs; and
 - vi. ground-truthing of modelled noise assessment data.

Any pre-consent monitoring or data collection carried out by the Company to address any of the above issues may be used, in part, to discharge this condition subject to the written approval by the Scottish Ministers.

The PEMP is a live document and must be regularly reviewed by the Scottish Ministers, at timescales to be determined by them to identify the appropriateness of on-going monitoring. Following such reviews, the Scottish Ministers may, in consultation with the Regional Advisory Group, or any other ecological advisors or organisations as required at the discretion of the Scottish Ministers, require the Company to amend the PEMP and submit such an amended PEMP, in writing, to the Scottish Ministers, for their written approval. Such approval may only be granted following consultation by the Scottish Ministers with ASFB, RSPB Scotland, SNH, WDC and any other ecological, or such other advisors as may be required at the discretion of the Scottish Ministers.

The Company must submit written reports and associated raw data of such monitoring or data collection to the Scottish Ministers at timescales to be determined by them. Subject to any legal restrictions regarding the treatment of the information, the results are to be made publicly available by the Scottish Ministers, or by such other party appointed at their discretion.

The Scottish Ministers may agree, in writing, that monitoring may be reduced or ceased before the end of the lifespan of the Development.

Reason: To ensure that appropriate and effective monitoring of the impacts of the Development is undertaken.

20. Regional Advisory Group

The Company must participate in any Regional Advisory Group (“RAG”), or any successor group, established by the Scottish Ministers for the purpose of advising the Scottish Ministers on research, monitoring and mitigation programmes for, but not limited to, ornithology, marine mammals, and diadromous fish. The extent and nature of the Company’s participation in the RAG is to be agreed by the Scottish Ministers.

Reason: To ensure effective environmental monitoring and mitigation is undertaken at a regional scale.

21. Environmental Clerk of Works

Prior to the Commencement of the Development, the Company must at its own expense, and with the approval of the Scottish Ministers in consultation with SNH, appoint an independent Environmental Clerk of Works (“ECoW”). The ECoW must be appointed in time to review and approve the draft version of the first plan or programme submitted under this consent to the Scottish Ministers, and remain in post until agreed by Scottish Ministers. The terms of appointment must be approved by Scottish Ministers in consultation with SNH.

The terms of the appointment must include, but not be limited to:

- a. quality assurance of final draft versions of all plans and

- programmes required under this consent;
- b. responsibility for the monitoring and compliance of the consent conditions and the environmental mitigation measures;
 - c. provision of on-going advice and guidance to the Company in relation to achieving compliance with consent conditions, including but not limited to the conditions relating to the CaP, CMS, EMP, PEMP, PS, and VMP;
 - d. provision of reports on point c above to the Scottish Ministers at timescales to be determined by them;
 - e. inducting and toolbox talks to onsite construction teams on environmental policy and procedures and keeping a record of these;
 - f. monitoring that the Development is being constructed according to the plans and this consent and the Application, and complies with the regulations and legislation;
 - g. reviewing and reporting incidents/near misses and reporting any changes in procedures as a result; and
 - h. agreement of a communication strategy with the Scottish Ministers.

Reason: *To ensure effective monitoring of and compliance with the environmental mitigation and management measures associated with the Development.*

22. SpORRAn (Scottish Offshore Renewables Research Framework)

The Company must, to the satisfaction of the Scottish Ministers, participate in the monitoring requirements as laid out in the Scottish Offshore Renewables Research Framework (“SpORRAn”). The extent and nature of the Company’s participation is to be agreed by the Scottish Ministers.

Reason: *To ensure effective environmental monitoring and mitigation is undertaken at a National scale.*

23. Scottish Strategic Marine Environment Group

The Company must participate in any Scottish Strategic Marine Environment Group (“SSMEG”) established by the Scottish Ministers for the purposes of advising the Scottish Ministers on research, monitoring and mitigation programmes for, but not limited to, ornithology, diadromous fish, marine mammals and commercial fish.

Reason: *To ensure effective environmental monitoring and mitigation is undertaken at a National scale.*

24. Fisheries Working Group

The Company must participate in an Islay Fisheries Working Group (“IFWG”), or any successor group, formed to facilitate commercial fisheries dialogue, for the purposes of defining and finalising a Fishing Management and Mitigation Strategy (“FMMS”). The IFWG must adhere to the working

group protocol.

Reason: *To mitigate the impacts on commercial fishermen*

25. Fisheries Management and Mitigation Strategy

The Company must, no later than 6 months prior to the Commencement of the Development, or at such a time as agreed with the Scottish Ministers, submit a Fisheries Management and Mitigation Strategy (“FMMS”), in writing, to the Scottish Ministers for their written approval.

In order to inform the production of the FMMS the Company must monitor or collect data as relevant and as agreed with Scottish Ministers in terms of the ES and any subsequent monitoring or data collection for:

- i. the impacts on the adjacent coastline;
- ii. the effects on local fishermen; and
- iii. the effects on other users of the sea.

As part of any finalised FMMS, the Company must produce and implement a mitigation strategy for each commercial fishery that can prove to the Scottish Ministers that they will be adversely affected by the Development. The Company must implement all mitigation measures committed to be carried out by the Company within the FMMS. Any contractors, or sub-contractors instructed by the Company in connection with the Development, must co-operate with the fishing industry to ensure the effective implementation of the FMMS.

Reason: *To mitigate the impact on commercial fishermen.*

26. Fisheries Liaison Officer

Prior to the Commencement of the Development, a Fisheries Liaison Officer (“FLO”) must be appointed by the Company and approved, in writing, by the Scottish Ministers following consultation with SFF, IFWG and any other advisors or organisations as may be required at the discretion of the Scottish Ministers. The FLO must be appointed by the Company for a period from the Commencement of the Development until the Final Commissioning of the Development. The identity and credentials of the FLO must be included in the EMP. The FLO must establish and maintain effective communications between the Company, any contractors or sub-contractors, fishermen and other users of the sea during the construction of the Development, and ensure compliance with best practice guidelines whilst doing so.

The responsibilities of the FLO must include, but not be limited to:

- a. establishing and maintaining effective communications between the Company, any contractors or sub-contractors, fishermen and other users of the sea concerning the Development and any amendments to the CMS and site environmental procedures;
- b. the provision of information relating to the safe operation of fishing

- activity on the site of the Development; and
- c. ensuring that information is made available and circulated in a timely manner to minimise interference with fishing operations and other users of the sea.

Reason: To mitigate the impact on commercial fishermen.

27. Marine Archaeology Reporting Protocol

The Company must, no later than 6 months prior to the Commencement of the Development, or at such a time as agreed with the Scottish Ministers, submit a Marine Archaeology Reporting Protocol (“MARP”) which sets out what the Company must do on discovering any marine archaeology during the construction, operation, maintenance and monitoring of the Development, in writing, to the Scottish Ministers for their written approval.

The Company must also submit a Written Scheme of Investigation (“WSI”) which includes details of proposed micro-siting, buffer and exclusion zones during construction, operation, maintenance and monitoring of the Development, in writing to the Scottish Ministers for their written approval.

Such approvals may be given only following consultation by the Scottish Ministers with Historic Environment Scotland (“HES”) and any such advisors as may be required at the discretion of the Scottish Ministers. The MARP must be implemented in full, at all times, by the Company.

Reason: To ensure any discovery of archaeological interest is properly and correctly reported.

Advisory Note

The Company is advised by ABC to utilise underground cable for new cable routes associated with the project in the following sensitive areas:

- Areas of biodiversity;
- Areas of Archaeology and Built Environment;
- Areas of Landscape Designation;
- Areas in close proximity to housing and tourist accommodation; and
- Areas in close proximity to community and public facilities.

11 Regulatory evaluation

Conclusions

- 11.1 In considering the Application, in particular the ES, HRA Addendum and accompanying documents, and the relevant provisions of the Marine (Scotland) Act 2010, a full and detailed assessment has been made of the potential direct and indirect effects of the Development on human beings, fauna and flora, soils, water, air climate, the landscape, material assets, the

cultural heritage and the interaction between any two or more of these factors.

- 11.2 Marine Scotland, as the Appropriate Authority, consider that, having taken account of the information provided by the Company, the responses of the consultative bodies and members of the public, there are no outstanding concerns with regards to the effects on the environment which would require a Marine Licence to be withheld subject to the inclusion of the conditions referred to above in the Marine Licence and section 36 consent that may be granted in due course.

Recommendations

- 11.3 Having carried out assessments of the potential environmental impacts of the proposed Development, the reviewer acting on behalf of Marine Scotland, makes the recommendations below:

Marine Scotland are satisfied that the ES adequately addresses all environmental issues in relation to the DP Marine Energy West Islay Tidal Energy Park subject to the conditions referred to above being included in the relevant Marine Licence and section 36 consent, if subsequently issued.

The reviewer acting on behalf of Marine Scotland recommends that a favourable EIA consent decision is given in respect of the DP Marine Energy West Islay Tidal Energy Park, subject to the inclusion of the above conditions being attached to any relevant Marine Licence and section 36 consent.

12 Environmental Impact Consent Decision

- 12.1 Having considered the analysis and recommendations of the environmental impact assessment process above, an environmental impact assessment consent decision is given **in favour** of the DP Marine Energy West Islay Tidal Energy Park in accordance with Regulation 22 of the MWR.