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THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2000.

SCOPING OPINION FOR THE PROPOSED DEMONSTRATION TIDAL SITE AT SOUND OF ISLAY

1. Introduction

I refer to your letter of 8 August 2008 requesting a scoping opinion under the Electricity Works (Environmental Impact Assessment)(Scotland) Regulations 2000 enclosing a scoping report dated August 2008 (Reference Number: HMF/LET/02/110/075).

Any proposal to construct or operate an offshore power generation scheme with a capacity in **excess of 1 megawatt** requires Scottish Ministers' consent under section 36 of the Electricity Act 1989.

Schedule 9 of the Act places on the developer a duty to "have regard to the desirability of preserving the natural beauty of the countryside, of conserving flora, fauna and geological and physiological features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest". In addition, the developer is required to give consideration to Scottish Planning Policy 6 on Renewable Energy, other relevant Policy and National Policy Planning Guidance, Planning Advice Notes, the relevant planning authority's Development Plans and any relevant supplementary guidance.

Under the Electricity Works (Environmental Impact Assessment)(Scotland)(EIA) Regulations 2000, Scottish Ministers are required to consider whether any proposal for an offshore device is likely to have a significant effect on the environment. Scottish Ministers have considered your request for an opinion on the proposed content of the ES in accordance with regulations and in formulating this opinion, Scottish Ministers have consulted with SEPA, Historic Scotland (HS), Argyll and Bute Council, Scottish Natural Heritage (SNH), Royal Society for Protection of Birds (RSPB), Chamber of Shipping, Forestry Commission, Civil Aviation Authority (CAA), National Air Traffic Services (NATS), The Crown Estate, Health and Safety Executive, Marine and Coastguard Agency (MCA), Northern Lighthouse Board (NLB), Scottish Wildlife Trust (SWT), Scottish Fisherman Federation (SFF) and The Royal Yachting Association (RYA). Responses have been received from all of these organisations except for the Forestry Commission and Scottish Wildlife Trust. If we subsequently receive responses, we will forward them directly to you.

Please note that the EIA process is vital in generating an understanding of the biological and physical processes that operate in the area and may be impacted by the proposed Sound of Islay Tidal Energy Project. We would however state that references made within the scoping document with regard to the significance of impacts should not prejudice the outcome of the EIA process.



It is important that any development of renewable energy sources should be accompanied by a robust assessment of its environmental impacts. The assessment should also consider how any negative environmental impacts could be avoided or minimised, through the use of mitigating technologies or regulatory safeguards, so that the quality and diversity of Scotland's wildlife and natural features are maintained and enhanced. Scottish Ministers welcome the commitment given in the report that the EIA process will identify mitigation measures in order to avoid, minimise or reduce any adverse impacts. We would suggest that the range of options considered should be informed by the EIA process in order that these objectives can be achieved. Consultation with the relevant nature conservation agencies is essential and it is advised that this is undertaken as appropriate.

2. Aim of this Scoping Opinion

Scottish Ministers are obliged under the EIA regulations to respond to requests from developers for a scoping opinion on outline design proposals.

The purpose of this document is to provide advice and guidance to developers which has been collated from expert consultees whom the Scottish Government has consulted. It should provide clear advice from consultees and enable developers to address the issues they have identified and address these in the EIA process and the Environmental Statement associated with the application for section 36 consent.

3. Description of your development

From your submitted information it is understood, the proposed development is for a proposed Demonstration Tidal Site with the approximate electrical output of 20 Megawatt (MW) in the Sound of Islay. The Tidal Site will consist of up to 20 submerged demonstration tidal stream generating devices each with an individual capacity of 1-1.5MW.

4. Land Use Planning

Scottish Planning Policy SPP 6, Renewable Energy sets out the national planning policies for renewable energy developments. It outlines the process of encouraging, approving and implementing renewable energy proposals to ensure the delivery of renewable energy targets. The SPP identifies the issues that Scottish Ministers will take into account when considering applications for off-shore electricity generation schemes under Section 36 of the Electricity Act 1989.

The whole series of SPPs (and those National Planning Policy Guidelines (NPPGs) which have yet to be replaced) should be taken as an integral policy suite and considered along with the supporting advice and information in Planning Advice Notes (PANs) and Circulars. Planning documents that a developer should particularly consider include:

- Planning Authority Supplementary Planning Guidance
- National Planning Framework for Scotland





- SPP1: The Planning System
- SPP6. Renewable Energy
- SPP7: Planning and Flooding
- SPP15: Planning for Rural Development (2005)
- SPP17: Planning for Transport (2005)
- SPP 21: Green Belts
- NPPG5: Archaeology and Planning
- NPPG14: Natural Heritage
- NPPG18: Planning and Historic Environment
- PAN42: Archaeology–Planning Process and Scheduled Monument Procedures
- PAN45: 2002 Renewable Energy Technologies
- PAN 50: Controlling the Environmental Effects of Surface Mineral Workings
- PAN 51: Planning, Environmental Protection and Regulation
- PAN56: Planning and Noise
- PAN58: Environmental Impact Assessment
- PAN60: Planning for Natural Heritage
- PAN68: Design Statements
- PAN69: Planning and Building Standards Advice on Flooding
- PAN 75: Planning for Transport
- PAN 79: Water and Drainage
- Marine Guidance Note 275 (M)

5. Natural Heritage

Scottish Natural Heritage (SNH) has produced a service level statement (SLS) for renewable energy consultation. This statement provides information regarding the level of input that can be expected from SNH at various stages of the EIA process. Annex A of the SLS details a list of references, which should be fully considered as part of the EIA process. A copy of the SLS and other vital information can be found on the renewable energy section of their website – www.snh.org.uk

6. General Issues

Economic Benefit

The concept of economic benefit as a material consideration is explicitly confirmed in SPP 6. This fits with the priority of the Scottish Government to grow the Scottish economy and, more particularly, with our published policy statement "Securing a Renewable Future: Scotland's Renewable Energy", and the subsequent reports from the Forum for Renewables Development Scotland (FREDS), all of which highlight the manufacturing potential of the renewables sector. The application should include relevant economic information connected with the project, including the potential number of jobs, and economic activity associated with the procurement, construction operation and decommissioning of the development.







7. **Contents of the Environmental Statement (ES)**

Format

Developers should be aware that the ES should also be submitted in a userfriendly PDF format which can be placed on the Scottish Government website. A description of the methodology used in assessing all impacts should be included.

It is considered good practice to set out within the ES the qualifications and experience of all those involved in collating, assessing or presenting technical information.

Non Technical Summary

This should be written in simple non-technical terms to describe the various options for the proposed development and the mitigation measures against the potential adverse impacts which could occur.

Site selection and alternatives

First, there is the general choice of site in the broader context, and the applicant should demonstrate that a fairly wide set of environmental and economic parameters have been used to narrow down choice of sites. Secondly, there should be a detailed examination on these parameters to minimise the impact of the proposal by sensitive design and layout.

Tidal potential and access to the grid are key to initial sieve-mapping exercises for site selection, but environmental constraints should also be included in this initial site selection process.

Argyll and Bute Council have advised that the Environmental Statement should address site selection in the context of available alternatives and also with regard to the cumulative impact of the development with other relevant projects. In addition to the consideration of alternative locations, alternative methods should also be considered. The Scoping Report states that the devices will be seabed mounted with gravity based foundations and ballast weights and that if the seabed conditions show that this is not appropriate then other alternatives will be considered. The EIA should consider these alternative methods of attachment.

Given that the layout and design are still developing and evolving, the exact nature of the work that is needed to inform the EIA may vary depending on the design choices. The EIA must address this uncertainty so that there is a clear explanation of the potential impact of each of the different scenarios. It should be noted that any subsequent components/scenario's procured after the ES is submitted would be subject to further environmental assessment and public consultations period if deemed to be significant.



6



Description of the development

Your description of the proposed development in the Environmental Statement should comprise information on the site boundary, design layout, and scale of the development.

Where it is required to assess environmental effects of the development (see EIA regulation 4 (1)(b), the Environmental Statement should include;

- (a) a description of the physical characteristics of the whole development and the onshore land use requirements during the construction, operation, decommissioning and restoration phases;
- (b) a description of the main characteristics of the production processes and nature and quality of the materials used; and
- (c) an estimate by type and quantity of expected residues and emissions resulting from the operation of the proposed development.

Decommissioning

The subsequent application and supporting environmental statement should include a programme of work complete with outline plans and specifications for the decommissioning and reinstatement of the site. Information should be provided on the anticipated working life of the development and after use site reinstatement.

Grid Connection Details

The impacts of constructing, installing and operating the following infrastructure components should be considered and assessed by developers, if known;

- Substation
- Cabling (Underground)
- Cabling (Overhead)
- Monitoring and control centre.

8. Baseline Assessment and Mitigation

This section should clearly set out a description of the environmental features of the proposed development site, the likely impacts of the development on these features, and the measures envisaged to prevent, mitigate and where possible remedy or offset any significant effects on the environment. It should incorporate details of the arrangements and the methodologies to be used in monitoring such potential impacts, including arrangements for parallel monitoring of control sites, timing and arrangements for reporting the monitoring results.

It should be noted that there is a danger that these measures could themselves have secondary or indirect impacts on the environment.







Air, Climate and Carbon Emissions

The Environmental Statement should fully describe the likely significant effects of the development on the environment, including direct effects and any indirect, secondary, cumulative, short, medium and long term, permanent and temporary e.g. construction related impacts, positive and negative effects of the development which result from:

- a) the existence of the development.
- b) the use of natural resources.
- c) the emission of pollutants, the creation of nuisances and the elimination of waste.

SEPA have advised that other aspects of the process may have to be controlled by the Section 36 consent therefore SEPA recommends that a dust management strategy would need to be a condition of any consent. Further advice should be sought from the environmental health officers at the local authority.

SEPA have advised that any impact upon air quality through terrestrial elements such as construction of roads should be assessed through the ES. If crushing of rock or grading or screening of rock or road stone coating is proposed as part of road accesses then the applicant should note the regulatory advice contained in paragraph 14 below.

Design, Landscape and the Built Environment

SNH have advised that reference is made to the key documents in the scoping report including the relevant landscape character assessments:

Landscape Assessment of Argyll and the Firth of Clyde. Report to Scottish Natural Heritage. Environmental Resources Management. 1996

SNH have advised that this is supplemented by the seascapes assessment which SNH commissioned in respect of (offshore) windfarms. Although the technology differs, the seascapes report has relevance in the description it provides for the Sound of Islay, a pdf is free to download from SNH's publications website: http://www.snh.org,uk/pubs/

Scott K.E., Anderson C. and Benson J.F. (2005). An assessment of the Sensitivity and Capacity of the Scottish Seascape in Relation to Windfarms. Scottish Natural Heritage Commissioned Report No.103.

SNH have advised that the following good practice guidance sets out the principles of undertaking a landscape and visual assessment (the principles will equally apply to seascapes):

LI-IEMA (2002). Guidelines for Landscape and Visual Impact Assessment.
There is also:







Swanick, C (2002) Landscape Character Assessment Guidance for England and Scotland

SNH have advised that the applicant may also find it helpful to refer to:

PAN 68- Design Statements: and SNH(2001). Guidelines on the Environmental Impacts of Windfarms and Small Scale Hydroelectric Schemes.

SNH have advised that this guidance may be helpful in outlining the importance of providing a design statement for a development proposal, and in considering the design of the onshore ancillary elements of the proposed Tidal Site, including the control building, grid connection and access tracks.

SNH have advised that onshore facilities such as grid connections and substations should be sympathetic to the outstanding quality of the landscape in the area if they are sited within the NSA or can be viewed from the NSA (Islay side of Sound of Islay). Details such as design and colour of external building materials, routing of tracks and overhead lines and landscaping works should be designed to minimise visual impacts on the landscape.

SNH have advised that it is these onshore elements of the proposal which are of primary importance for the applicant to address in the Landscape/Seascape Visual Impact Assessment, however, they should also consider any requirements for marker buoys and/or night time lighting around the location for the Tidal Site itself. And while this proposed Tidal Site is the first of its kind in this location, it will be important for the applicant to consider any cumulative landscape and visual impacts of the proposal in combination with other types of development in the area.

Construction and Operation

Fisheries Research Services (FRS) have advised that they cannot foresee a major FEPA problem with the deployment of one of these devices into Scottish waters. However, FRS believe that for an array/site to be considered a new application should be submitted and circulated around consultees, only once the single device has been successfully trialled. This allows the unknown critical information to be evaluated prior to the FEPA licence being issued for the actual site.

FRS are confused to the time periods given for phase 1&2 of the development. FRS query how the time period for phase 1 be similar to that of phase 2 when it involves implementing 20 devices in phase 2 and only 1 device in phase 1. The operational life cycle of the tidal site is 25 years in phase 2, to be followed by decommissioning or an extension to the use of the site by up grading the devices in place.

FRS have advised that if the current is too strong for the gravity based foundations to work, what other installation methods can be used if the current force is too strong for these devices.

FRS have gueried if a Gannt chart can be supplied for each operational stage.







FRS have advised that the EIA should focus on the full force of the current through all modelling procedures. The worst case scenario is the best approach to take for the EIA process but it should be noted that this project has so many unknown factors including the collision factors of young seal pups. The most substantial part of the device has to be the actual foundation in which it attaches to the sea bed, the hydrodynamics of the base unit need to be discussed and detailed within the EIA. From an FRS point of view there has to be a precedent for this device to stay put on the sea bed and not drift, especially in high tidal stream areas.

FRS would like it to be stipulated within the ES that it will be Scottish Power Renewables' responsibility to find and retrieve any lost pieces of kit during and after construction.

FRS have advised that the substructure is lowered from the specially adapted barge onto the sea bed, with weights docked to the footing of the three legged structure after it is lowered onto the sea bed to enable station keeping. FRS would like to know what type of vessel will be conducting this piece of work as a Jack up barge would be required due to the sheer force of the current. FRS have also noted that the barge pictured on page 25 of the Scoping report would drift and drag its anchor within a very limited working time period

FRS have advised that the turbine Blades were mounted onto the Nacelle on the surface and by means of Guide wires (Rough seas); has a jack up barge been considered.

FRS have advised that alternatives to the Gravity based foundations and ballast weights should be considered, dependant on sea bed conditions. FRS also advise that engineering advice will be required for developments in Scottish Waters.

FRS have advised in regards to the maintenance of the Nacelle Structures, has any contingency plan been submitted for maintenance during the winter months? FRS also request the time scale needed to remove/repaired and then replace a Nacelle structure.

FRS have queried if the umbilical cables holding the devices together have been trialled in Scottish water conditions. FRS also query if the cables require rock armour, and if so, where from and what quantities as the current will remove the armour.

FRS have advised that the 12 month installation period is questionable. If SNH stipulate work restriction conditions regarding seal breeding seasons, the 12 month target may not be achieved.

Sensitive Breeding Season Common Seals – June/July Grey Seals – September/November Moulting Season Common Seals – August Grey Seals – April/May





FRS have advised that the prototype has been trialled in Norway Fjords however there is no comparison between the conditions within the static Fjords and the Sound of Islay currents.

FRS have advised that this project device is at the very early stages as the design stages still have to be finalised for these Scottish conditions. Trying to pre-judge the direction of the current is going to be the hardest aspect of the development.

FRS have advised that it was stated in the Scoping report that the work would be favoured to take place in the summertime due to the smaller wave height. However the Sound of Islay is sheltered from the Atlantic storms but the currents are extremely volatile and the force during construction causes concern. FRS recommends this should now state that all works must take place in the summer for Health and Safety reasons.

Maintenance was discussed briefly but the time line should be entered into removal of the nacelle and how do you predict the guide wires to work in stormy conditions for the installation process.

FRS have advised that the issue regarding entanglement of fishing gear also shows concern, especially from a creeling point of view and hauling pots to the surface.

Health and Safety Executive have advised that the Environmental Statement should not include measures which would conflict with the requirements of the Health and Safety at Work Act 1974 and its relevant statutory provisions.

SEPA have advised that it is unclear whether any borrow pits are proposed as part of this development. Experience suggests that there may be a considerable need for borrow pits. SEPA seeks in relation to substantial new development that developers demonstrate that the development includes construction practices to minimise the use of raw materials and maximise the use of secondary aggregates and recycled or renewable materials. Further information is available from AggRegain (www.aggregain.org.uk/) which provides a unique 'one-stop' source of practical information on the use of recycled and secondary aggregates. It is a free service, designed to assist anyone interested in specifying, purchasing or supplying these types of products.

SEPA suggests it is sometimes the case that the need for borrow pits or the detailed location of borrow pits appears only after an application has been determined, but the impact of such facilities (including dust, blasting and impact on water) needs to be appraised as part of the overall impact of such facilities as part of the EIA process.

SEPA have advised that where borrow pits are proposed the ES should include information regarding the location, size and nature of these borrow pits, including information on the depth of the borrow pit floor and the borrow pit final reinstated profile.

SNH have advised that the initial installation of a single turbine may not be beneficial in assessing the impacts of an array of 20 turbines. SNH is of the view







that should the development proceed, an initial installation of 10 turbines to allow monitoring of the effects of an array may be more beneficial.

The ES should set out mechanisms to ensure that workers on site, including sub-contractors, are aware of environmental risks, and are well controlled in this context. The ES should state whether or not appropriately qualified environmental scientists or ecologists are to be used as Clerk of Works or in other roles during construction to provide specialist advice. Details of emergency procedures to be provided should be identified in the ES.

The process whereby a method statement is consulted upon before commencement of work is satisfactory at many sites where sensitivities are non-critical. However for environmentally sensitive sites it is recommend that, following consultation, method statements be approved by the planning authority in consultation with SNH, prior to the commencement of construction work.

Scottish Natural Heritage would normally only wish to comment on Construction Method Statements where there are relevant and significant natural heritage interests involved. Developers should avoid submitting multiple versions of the Construction Method Statement to SNH.

Archaeology and Cultural Heritage

The ES should address the predicted impacts on the historic environment and describe the mitigation proposed to avoid or reduce impacts to a level where they are not significant. Historic environment issues should be taken into consideration from the start of the site selection process and as part of the alternatives considered.

The "historic environment" is defined in section 2 of Scottish Historic Environment Policy (SHEP) 1 Scotland's Historic Environment (www.historic-scotland.gov.uk/index/policyandguidance/sheps/shep1.htm.

National policy for the historic environment is set out in the following key documents:

- National Planning Policy Guideline (NPPG) 5, Planning and Archaeology: www.scotland.gov.uk/Publications/1998/10/nppg5
- National Planning Policy Guideline (NPPG)18, Planning and the Historic Environment: www.scotland.gov.uk/Publications/1999/04/nppg18.
- Scottish Historic Environment Policies (SHEPs) a new series of Scottish Government policy documents which set out Scottish Ministers strategic policies for the historic environment. The series can be viewed at www.historic-scotland.gov.uk/index/policyandguidance/sheps.htm.
- The Memorandum of Guidance on Listed Buildings and Conservation Areas,
 - 1998:www.historicscotland.gov.uk/index/policyandguidance/memorandu mofguidance.htm.



Amongst other things, NPPG 5 stresses that scheduled monuments should be preserved in situ and within an appropriate setting, whilst NPPG 18 confirms that legislation requires that special regard must be had to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses. Consequently both direct impacts on the resource itself and indirect impact on its setting must be addressed in Environmental Impact Assessment.

Historic Scotland recommend that you engage a suitably qualified archaeological/historic environment consultants to advise on, and undertake the detailed assessment of impacts on the historic environment and advise on appropriate mitigation strategies.

Baseline Information

Information on the location of all archaeological/historic sites held in the National Monuments Record of Scotland, including the locations and, where appropriate, the extent of scheduled monuments, listed buildings and gardens and designed landscapes can be obtained from www.PASTMAP.org.uk.

Data on scheduled monuments, listed buildings and properties in the care of Scottish Ministers can also be downloaded from Historic Scotland's Spatial Data Warehouse at

http://hsewsf.sedsh.gov.uk/pls/htmldb/f?p=500:1:8448412299472048421::NO . For any further information on those data sets and for spatial information on gardens and designed landscapes and World Heritage Sites which are not currently included in our Spatial Data Warehouse please contact hsgimanager@scotland.gsi.gov.uk. Historic Scotland would also be happy to provide any further information on all such sites.

Historic Scotland have advised that it is possible that a development in this location could affect the setting of cultural heritage resources across a wide area beyond the boundary of both your search are and development site. Historic Scotland note that you have already considered some scheduled monuments and listed buildings in your draft opinion report. Sites which lie closest to your search area are included in the following list:

Scheduled Monuments

Kellis House, cross shaft 280m NNE of (Index No.2362) Cil Challium Chille, chapel, Kiells (Index No. 2361) Cil Sleabhan, chapel 1000m SSE of kiells (Index No. 2371)

D. Discossis de ENE elles el Este Mede No 0050)

Dun Bhoraraic, dun ENE of Lossit Farm (Index No.3959)

Cill Eilegain, chapel 750m N of Mulreesh (Index No. 2356)

Historic Scotland have advised that this list is not exhaustive and there may be other archaeological sites that may be subject to impacts beyond the boundary of your development site.

Historic Scotland have advised that it is strongly recommended that your cultural heritage consultant carries out out an assessment of the likely impacts of proposed development on these sites, reporting the findings of such an assessment in any ES produced. Some general considerations which we advise your cultural heritage consultant takes into account in undertaking such an







assessment can be found on Historic Scotland's website at the following address:

http://www.historic-scotland.gov.uk/eiaand gdposcopingsetting.pdf. Whilst that advice primarily relates to the impact of wind farms on the setting of historic environment features, we consider that similar, broad principles can be seen to apply to any on-shore and above water level elements of the development. Historic Scotland would be happy to discuss this further with you or your specialist consultant if required.

Historic Scotland have advised that the cultural heritage advisor should contact the relevant Council's Archaeology Service for information and advice on unscheduled archaeology. In this case, this is West of Scotland Archaeology Service, Charing Cross Complex, 20 India Street, Glasgow, G2 4PF.

8. Ecology, Biodiversity and nature Conservation

Designated sites

The ES should address the likely impacts on the nature conservation interests of all the designated sites in the vicinity of the proposed development. It should provide proposals for any mitigation that is required to avoid these impacts or to reduce them to a level where they are not significant. Information on designated sites and the law protecting them can be found on the SNH website. Maps of the boundaries of all natural heritage designated sites and information on what they are designated for are also publicly available via SiteLink in the SNHi section of the SNH website http://www.snh.org.uk/snhi/. The developer is referred to this resource to ensure that they have the correct information on designated sites within the locality that may be affected by the proposed The potential impact of the development proposals on other designated areas such as NSA, LSA, SSI or Regional/National Parks etc should be carefully and thoroughly considered and appropriate mitigation measures outlined in the ES. Early consultation and agreement with SNH, the relevant planning authority and other stakeholders is imperative in these circumstances.

For developments with a potential to affect Natura sites, applicants must provide in the ES sufficient information to make clear how the tests in the Habitats Regulations will be met, as described in the June 2000 Scottish Government quidance. The information in the ES should enable the assessments required by the legislation to be completed by the Scottish Government. Specific guidance on the Habitats and Birds Directive regarding the appropriate impact assessments and associated alternative solution and **IROPI** tests available following website link is on the http://www.scotland.gov.uk/library3/nature/habd-00.asp

Within the Regulations, the first test is whether the proposal is necessary for the management of the site: this will not be the case for wind farm applications. The next step is to ask whether the proposal (alone or in combination with other proposals) is likely to have a significant effect on the site. If so, the Scottish Government as the Competent Authority under the Habitats Directive will draw up an 'appropriate assessment' as to the implications of the development for the site, in view of that site's conservation objectives.





The scoping report should aim to present sufficient information to enable a conclusion to be drawn on this test, i.e. as to whether there is likely to be a significant effect on the site. If that information is provided, SNH will be able to advise, when consulted upon the scoping request, whether an appropriate assessment will be necessary. In the event that detailed survey or analysis is required in order to reach a view, the survey and analysis should be regarded as information contributing to that assessment. Note that such information should be provided for the wind farm itself together with any ancillary works such as grid connections and vehicle tracks, and cumulatively in combination with any other wind farm consented or formally proposed in the vicinity.

SNH have advised that the report identifies South east Islay Skerries Special Area of Conservation (SAC) Treshnish Islands SAC and Eileanan agus Sgeirean Lios mor (the Isles and Skerries of Lismore) SAC as Natura sites where the baseline conditions and potential effects of the proposed development need to be considered in an Environmental Statement. SNH agree that South east Islay Skerries SAC needs to be included within the considerations of the ES, due to the presence of common seals and the fact that this species is expected to routinely range 50km or more from their haul out site in the SAC. However SNH consider that Treshnish Islands SAC and Lismore SAC are too far from the proposed development site to be affected, therefore do not need to be included within the considerations of the ES.

SNH have advised that the ES should consider the potential effects of the development on the Firth of Lorn SAC, which lists harbour porpoise as an interest. A site's status as a SAC under the EC Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna (the "Habitats Directive"), means that the Conservation (Natural Habitats, &c.) Regulations 1994 as amended, (the "Habitats Regulations") apply.

SNH have advised the requirements are summarised in SE Circular 6/1995 as amended June 2000 and include, at paragraph 12;

"The Regulations (48) require that, where an authority concludes that a development proposal unconnected with the nature conservation management of a Natura 200 site is likely to have a significant effect on that site, it must undertake an appropriate assessment of the implications for the conservation interests for which the area has been designated".

SNH have advised the need for appropriate assessment extends to plans or projects outwith the boundary of the site in order to determine their implications for the interest protected within the site. Under regulation 48 of the Habitats Regulations, this means that Scottish Ministers, as competent authorities, have a duty to:

Determine whether the proposal is directly connected with or necessary to site management for conservation; and, if not, determine whether the proposal is likely to have a significant effect on the site either individually or in combination with other plans or projects; and, if so, then make an appropriate assessment of the implications (of the proposal) for the site in view of that site's conservation objectives.





SNH have advised that the competent authority can only agree to the proposal under Regulation 48 after having ascertained that it will not adversely affect the integrity of the site. If this is not the case, and there are no alternative solutions, the proposal can only be allowed to proceed if there are imperative reasons of overriding public interest, which in this case include those of a social or economic nature. If you propose to approve the plan on the grounds of imperative reasons of overriding public interest then Regulation 49 states that you must inform Scottish Ministers and you must not issue approval for a period of 21 days after receipt by Scottish Ministers unless notified otherwise. If proposals are allowed to proceed in accordance with Regulation 49 then it should be noted that Regulation 53 requires that Scottish Ministers shall secure that any necessary compensatory measures are taken to ensure that the overall coherence of Natura 2000 is protected. If this is not the case, and there are no alternative solutions, the proposal can only be allowed to proceed if there are imperative reasons of overriding public interest.

SNH have advised that they have considered potential impacts on Special Protection Areas (SPAs) in the area which support internationally important colonies of breeding seabirds. The closest of these to the proposed development site is North Colonsay and Western Cliffs SPA, which is important for guillemots (Uria aalge), kittiwakes (Rissa tridactyla) and razorbills (Alca torda). These birds will forage at sea for their prey fish species. However, the demonstration Tidal Site is proposed at 25km from the SPA, and this is too far away for there to be any regular (i.e. daily) foraging activity of seabirds coming from the SPA.

SNH have advised that there are two SSSIs which are located on the coastline adjacent to the Sound of Islay, both notified for their geological importance. They are West Coast of Jura SSSI and Rubh a Mhail to Uamhannan Donna Coast SSSI. Scottish Power Renewables indicated at a meeting with SNH staff on 15 September 2008 that the proposed development is likely to require land based development in areas outwith these SSSIs. If this is the case there is no need to consider effects on these sites within the ES. However, if the landward part of the proposed development is likely to require development on or close to these sites, the ES should consider the effects on the notified interests.

SNH have advised that the report does not mention Oronsay and South Colonsay SSSI which lies approx. 7km north-west of the proposed development site. The skerries and offshore islands to the south west and south east of Oronsay support a nationally important colony of breeding grey seals. The number of seal pups recorded over a 21 year period in this site shows it to be consistently one of the 2 largest grey seal colonies on the Inner Hebrides and west mainland coast of Scotland. It is likely that the range of these seals included the Sound of Islay therefore the baseline conditions and potential effects of the proposed development on the notified feature of the SSSI needs to be considered in an ES.

SNH have advised that the Southern part of the island of Jura is designated as Jura National Scenic Area (NSA). Jura forms the western visual limit of a large-scale coastal tract which encompasses Mid Argyll, but it is the southern part of the island which has outstanding scenic interest. The island is made up of quartzite, which usually results in remarkable upland landforms and Jura is no







exception. The Paps of Jura, all three between 700 and 800 metres in height, are dominant in views from the mainland Islay. The coastal fringe has dramatic raised beaches and cliff lines on the west side of the island, and indented bays and islets on the east shore, with some woodland, both semi-natural and planted.

<u>Habitats</u>

SNH suggest that the ecological survey methods are agreed with their specialist advisers and all ecological survey data collected during ES survey work should be made available by the applicant to SNH, in a form which would enable them to make future analyses of the effects of tidal developments if appropriate. Surveys should be carried out at appropriate times or periods of the year by appropriately qualified and experienced personnel, and suitability of the timing needs to be considered within the ES.

The ES should provide a comprehensive account of the habitats present on the proposed development site. It should identify rare and threatened habitats, and those protected by European or UK legislation, or identified in national or local Biodiversity Action Plans, Habitat enhancement and mitigation measures should be detailed.

SNH have advised that they are aware of a number of records of maerl in the Sound of Islay primarily in the north of the Sound. As stated in the Request for a Scoping Opinion maerl is a UK Biodiversity Action plan (BAP) Habitat for which an Action Plan has been developed. The Plan's objectives are to maintain in the range, variety and quality of the habitat.

SNH have noted that Scottish Power Renewables have already conducted a broad scale seabed mapping survey of the Sound of Islay and would appreciate sight of this to aid in developing further advice we provide on this case. SNH would expect the seabed survey to have identified and mapped any UKBAP habitats and species in the Sound to at least a low resolution.

SNH have advised that if UKBAP habitats and species have been identified in the general vicinity of the proposed final turbine location SNH may require a further more detailed seabed survey to aid in decision making on the overall suitability of the site and mirco-siting of the turbines. SNH can advise on the appropriate methodology for this survey if required.

Species: Plants and Animals

The ES needs to show that the applicants have taken account of the relevant wildlife legislation and guidance namely, Council Directives on The Conservation of Natural Habitats and of Wild Flora and Fauna, and on Conservation of Wild Birds (commonly known as the Habitats and Birds Directives), the Wildlife & Countryside Act 1981, the Nature Conservation (Scotland) Act 2004, the Protection of Badgers Act 1992, the 1994 Conservation Regulations, Scottish Executive Interim Guidance on European Protected Species, Development Sites and the Planning System and the Scottish Biodiversity Strategy and associated Implementation Plans. In terms of the SG Interim Guidance, applicants must give serious consideration to/recognition of meeting the three fundamental tests





set out in this Guidance. It may be worthwhile for applicants to give consideration to this immediately after the completion of the scoping exercise.

It needs to be categorically established which species are present on the site, and where, before the application is considered for consent. The presence of protected species such as Schedule 1 Birds or European Protected Species must be included and considered as part of the application process, not as an issue which can be considered at a later stage. Any consent given without due consideration to these species may breach European Directives with the possibility of consequential delays or the project being halted by the EC. Likewise the presence of species on Schedules 5 (animals) and 8 (plants) of the Wildlife & Countryside Act 1981 should be considered where there is a potential need for a licence under Section 16 of that Act.

<u>Plants</u>

SEPA have advised that they welcome the fact a full Phase 1 habitat survey will be undertaken, which will flag up any further work required via target notes and if necessary a more detailed Phase 2 survey. Having a full National Vegetation Classification (NVC) survey undertaken would also greatly contribute to NVC coverage of Scotland where gaps still exist in the geographic distribution of sampling. One of the locations where gaps exist is either side of the Sound and coverage of these coastal, transitional environs would assist in the move towards a more complete classification for Scotland and this application presents a good and timely way to plug this lacuna.

SEPA have advised that Lichens and relict ancient or semi-natural woodlands are the main terrestrial issue that the report highlights and often very important lichens, those which are indicators of long undisturbed conditions are found as a component of these woodlands, in this location possibly coastal woodland species or species of sheltered ravine. These same habitats that are vital to lichens are also important for bryophytes and SEPA encourages a full lower plant survey (lichens and bryophytes) of the proposed land based work site and its surrounds. Some species will thrive in specific niches provided by the tidal and splash zone conditions or in sheltered rocky clefts so caution and good surveys should be undertaken if the proposed application, short term construction elements and associated infrastructure could impact on these types of habitats.

SEPA have advised that they also expect this development to identify opportunity to improve ecological interests within the site and surrounding area in line with the Local Biodiversity Action Plan (LBAP) both for the terrestrial and marine environments. For example, habitat restoration/remediation on part of the site or debris removal from the shoreline should be explored.

FRS have advised that the Sound of Islay is in an area with large Algae and red seaweed accumulation and wish to know, with the strong currents pulling these down the tidal stream, will the device be endangered by entanglement.



Birds

RSPB have advised that the Sound of Islay provides a habitat for a variety of bird species: those potentially most at risk are diving birds. These are liable to potential collision; disturbance and displacement from the development. RSPB Scotland advises that the assessment should consider how this proposal would be likely to impact upon these species at different times of the year – since their numbers are vary seasonally. Those species most likely to be impacted would include black Guillemot, Guillemot, Razorbill, Cormorant and Shag, Eider, Common Scoter, Great and Red Throated Divers. Black Guillemots occur within the area at relatively low densities and may potentially be affected on a local scale through displacement and collision. The EIA should consider the placement of suitable nest structures away from the development area as a potential mitigation measure.

RSPB have advised that it is noted in considering potential impacts from contamination via leakage from the structure that no mention is made of the likely quantities of oil/anti-fouling effects are assessed as unlikely to be significant. We would advise that this should be kept as significance unknown at this stage and further consideration given to its impact based on the escape of the full quantities likely to be contained within one structure. Even a small release of oil can impact on seabirds and anti fouling material could have a localised effect dependant on rate of dilution. Fuller consideration needs to be given to the anti fouling technique employed for the blades/nacelle/tower- i.e. will it be coated with anti-fouling agent and then left for marine organisms to colonise with regular maintenance, or will a spray type system be used to keep structure free of growth.

RSPB have advised that the EIA and subsequent mitigation/post proliferation may also wish to consider what opportunities there are to enhance the area as a wildlife resource. Installation of false reefs combined with a no-take (trawl/dredge) area, for example between the structures, may benefit marine life and act as a nursery ground for breeding fish species. There may be potential to expand this to support a sustainable coastal and marine management zone.

RSPB have advised that in considering the potential layout a very standardised pattern is given (256-544m by 320-680). However, data on the Sound of Islay suggests it is relatively shallow with a deeper trench. An early attempt to show a more realistic layout based upon the bathymetry and water depth would be welcomed.

SNH confirm they do not consider that the proposed development is likely to have any effect on seabird populations within any sites designated for nationally or internationally important colonies of seabirds. Whilst not required for any SPA (or SSSI) bird species. SNH does advise that it would be helpful if the EIA for this demonstration Tidal Site still considered potential impacts on seabirds. Such a study may be invaluable for future projects if the developer wishes to propose a development in an area that is used by SPA and/ or other sensitive bird species.

SNH have advised that the Sound of Islay could be an appropriate location for carrying out such a study as it is a site which is relatively easily monitored given







the proximity of its two coastlines, and it could be relatively easily modelled given the bi-polar direction of tidal flow. The developer could use this site to gain an understanding of the interactions between marine renewables developments and seabirds; the nature and significance of impacts (or, indeed, whether there are any impacts).

SNH have advised that sources of information which could inform such a study include:

JNCC"Seabirds at Sea" http://www.jncc.gov.uk/page-1547

JNCC"Seaduck Survey Programme" http://www.jncc.gov.uk/page-1551

And of particular help, with reference to the Sound of Islay, may be the most recent seaduck survey report (available from the latter web-page):

Lewis, M., Wilson, L.J., Sohle, I., Dean, B.J., Webb, A. and Reid, J.B. (2008). Wintering sea ducks, divers and grebes in UK inshore areas: Aerial surveys and shore based counts 2006/7. JNCC Report, no.414.

We also recommend that the developer discusses the issue with Tim Dunn at JNCC. The office address and his email address are as follows:

JNCC Dunnet House 7 Thistle Place Aberdeen AB10 1UZ Telephone: 01224 655704

Email: tim.dunn@jncc.gov.uk

<u>Mammals</u>

FRS have advised that as these turbines actually come into direct contact with the marine environment consequently the impacts associated with Seal and Otter collision maybe extremely high, therefore it is SNH who will advise FRS on any conditions that should be stipulated on the FEPA licence.

SNH have advised that the following European Protected Species (EPS) occur on passage or feeding in the Sound of Islay; common dolphin (Delphinus delphis), bottlenose dolphin (Tusiops trucatus), Risso's dolphin (Grampus griseus, Atlantic white sided dolphin (Lagenorhynchus acutus), white beaked dolphin (Lagenorhynchus albirostris), harbour porpoise (Phocoena phocoena), killer whale (Orcinus orca) and minke whale (Balaenotera acutorostrata). Pilot whales (Globicephala melas) and humpback whales (Megaptera novaengliae) are also occasional vistors. Otter (lutra lutra) can be found along the coast on both Islay and Jura.

SNH have advised that EPS are given protection under the Conservation Regulations 1994 (as amended). This means it is illegal to:



deliberately kill, injure, disturb or capture/take European Protected Species. damage or destroy the breeding sites or resting places of such animals.

SNH have advised that it does not have to be deliberation, reckless or intentional for an offence to have been committed. Where it is proposed to carry out works which will affect EPS or their shelter/breeding places, whether or not they are present, a licence is required from the licensing authority. Further information on EPS and development can be found in the former Scottish Executive document European Protected Species, Development Sites and the Planning System: Interim guidance for local authorities on licensing arrangements (October 2001 via the Scottish Government publications website:

http://www.scotland.gov.uk/library3/environment/epsg.pdf

SNH have advised that as highlighted in the Interim Guidance, three tests must be satisfied before the licensing authority can issue a licence under Regulation 44(2) of the Conservation (Natural Habitats &c.) Regulations 1994 (as amended) to permit otherwise prohibited acts. An application for a licence will fail unless all of the three tests are satisfied. The three tests involve the following considerations:

Test 1 – The licence application must demonstrably relate to one for the purposes specified in Regulation 44(2) (as amended). For development proposals, the relevant purpose is likely to be Regulation 44(2) for which Scottish Government is currently the licensing authority. This regulation states licences may be granted by Scottish Government only for the purpose of "preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment".

Test 2 – Regulation 44(3)(a) states that a licence may not be granted unless Scottish Government is satisfied "that there is no satisfactory alternative".

Test 3 – Regulation 44(3)(b) states that a licence cannot be issued unless Scottish Government is satisfied that the action proposed "will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range" (Scottish Government will, however, seek the expert advice of Scottish Natural Heritage on this matter).

SNH have advised that consideration of EPS must be included as part of the planning application process, not as an issue to be dealt with at a later stage. Any planning consent given without due consideration to these species is likely to breach European Directives with the possibility of consequential delays or the project being halted by the EC, as has happened previously.





SNH have advised that the application should establish the distribution and usage of the Sound of Islay by marine mammals (cetaceans and seals) and basking sharks. We advised that fieldwork will be required in addition to a literature and desk-bases work. For this, the applicant should contact the Sea Mammal Research Unit (SMRU) for advice on appropriate survey methods. We envisage that a minimum of one years' survey data will be required to adequately ascertain usage of these areas by marine mammals and basking sharks, and we request that we are given the opportunity to review and comment upon the programme before it is formally approved. The relevant person at SMRU is:

Prof Ian Boyd
Sea Mammal Research Unit
Gatty Marine Laboratory
University of St Andrews
St Andrews
Fife
KY16 8LB

SNH have advised the results of a field survey should then be considered by the application in combination with their literature review in order to establish the probability and significance of marine mammals and basking sharks colliding with the proposed tidal turbines. We suggest that the applicant may wish to discuss approaches for ascertaining this with Dr Ben Wilson of the Scottish Association of Marine Science (SAMS) in Oban

The Scottish Association for Marine Science
Dunstaffnage Marine Laboratory
Oban
Argyll
PA37 1QA

SNH have advised that there is a potential for construction work to disturb seal at their haul out sites particularly during pupping and moulting. Disturbance during pupping can effect the survival rate of pups since entering the water more than necessary increases energetic demand. SNH advise that Scottish Power Renewables assess the potential for distribution at South east Islay Skerries SAC depending on the method of installation of the turbines and the proximity of the final location of the development to the seal haul out. Mitigation to prevent disturbance may include avoiding the following sensitive periods for common seal: pupping, end of June to mid-July and moulting, mid-August to early September.

Reptiles, amphibians

A baseline survey of the species and number of reptiles and amphibians present on the site should be undertaken. Particular attention should be paid to specially protected and/or vulnerable species, especially European Protected species, and those potentially affected by the development.



Fish

SNH have advised that Common Skate (Raja batis) is a UKBAP species and a population in Argyll may be some of the last of this species remaining in the UK. SNH would like to see this species taken into account in the seabed mapping work (any egg cases present) and any investigation into the effects of electromagnetic fields.

SNH have advised that Basking Sharks (Cetorhinus maximus) are seen in the Sound of Islay and there is a risk of collision with this species during installation and operation. Basking sharks are a UKBAP species and it is illegal to kill, injure or recklessly disturb basking under Schedule 5 of the Wildlife and Countryside Act (1981). Work by SNH/Colin Speedie on "hotspots" for basking sharks is due to be published shortly. This work will provide an indication of the number of basking sharks in the Sound of Islay and therefore the risk of collision with boats during construction and turbines during operation. We do not at present expect the Sound of Islay to emerge as a basking shark "hotspot"; however we advise that the application includes them as a target species in undertaking survey work as set out in the following section.

<u>Invertebrates</u>

A baseline survey of invertebrates present on the site and in the waterbodies and watercourses on and around the site throughout the year should be undertaken. This should be guided by existing information on the presence, distribution and abundance of notable invertebrates. Sampling of aquatic invertebrates should extend to watercourses which may be affected by run-off from the site during construction, operation or decommissioning. Particular attention should be paid to specially protected and/or vulnerable species, especially European Protected species, and those potentially affected by the development.

Sub-tidal benthic ecology

SEPA have advised that in relation to Benthic ecology and the comments made above regarding Table 8, it is recommended that these two situations should be ruled as 'Effect significance unknown at this stage until further data collated and assessed' and that further consideration of benthic ecology is required.

SEPA have advised at present the freshwater impacts are considered mainly under the Fish and Shell Fish sections of the Scoping Report in the context of effects in migratory (Fish and Shell Fish sections of the Scoping Report in the context of effects in migratory (fish (lampreys - if present), non-migratory fish and other components if the freshwater biota be considered too.

SEPA have advised that there will be considerable works both onshore and offshore. The assessment should assess both marine and terrestrial interests. Assessment of the potential impacts on the intertidal habitats and species found along this stretch of coast should be based on a suitable survey. Assessment of terrestrial impacts upon the water environment and associated habitats and species vulnerable to damage and measures that can be put into place to minimise impacts upon them. Further guidance on appropriate surveys should







be sought from SNH. It is vital that any survey, impact assessments and mitigation, if required, are carried out appropriately for the species or habitat in question. Walk over surveys are important in gathering information but these need to be undertaken at the appropriate time of year and time of day depending on the species in question.

10. Water Environment

Developers are strongly advised at an early stage to consult with SEPA as the regulatory body responsible for the implementation of the Controlled Activities Regulations (CAR), to identify 1) if a CAR license is necessary and 2) clarify the extent of the information required by SEPA to fully assess any license application.

All applications (including those made prior to 1 April 2006) made to Scottish Ministers for consent under section 36 of the Electricity Act 1989 to construct and operate a electricity generating scheme will require to comply with new legislation. In this regard we will be advised by the Scottish Environment Protection Agency (SEPA) as the regulatory body responsible for the implementation of the Water Environment (Controlled Activities) (Scotland) Regulations 2005, and will have regard to this advice in considering any consent under section 36 of the Electricity Act 1989. You may be required to obtain from SEPA an authorisation under the terms of the Water Environment (Controlled Activities) Regulations 2005 for some aspects of the development.

SEPA produces a series of Pollution Prevention Guidelines, several of which should be usefully utilised in preparation of an ES and during development. These include SEPA's guidance note PPG6: Working at Construction and Demolition Sites, PPG5: Works in, near or liable to affect Watercourses, PPG2 Above ground storage tanks, and others, all of which are available on SEPA's website at http://www.sepa.org.uk/guidance/ppg/index.htm. SEPA would look to see specific principles contained within PPG notes to be incorporated within mitigation measures identified within the ES rather than general reference to adherence to the notes.

Prevention and clean-up measures should also be considered for each of the following stages of the development;

- Construction.
- Operational.
- Decommissioning.

Construction contractors are often unaware of the potential for impacts such as these but, when proper consultation with the local fishery board is encouraged at an early stage, many of these problems can be averted or overcome.

- Increases in silt and sediment loads resulting from construction works.
- Point source pollution incidents during construction.
- Obstruction to upstream and downstream migration both during and after construction.



- Disturbance of spawning beds during construction timing of works is critical.
- Drainage issues.
- Sea Bed and Land Contamination

The ES should identify location of and protective/mitigation measures in relation to all private water supplies within the catchments impacted by the scheme, including modifications to site design and layout.

Developers should also be aware of available CIRIA guidance on the control of water pollution from construction sites and environmental good practice (www.ciria.org). Design guidance is also available on river crossings and migratory fish (SE consultation paper, 2000) at http://www.scotland.gov.uk/consultations/transport/rcmf-00.asp.

SEPA have advised that dependent on the historical use of the sites on the route an assessment may need to consider whether land contamination is present on the sea bed or land.

SEPA have advised that advice from the Argyll and Bute Council, who takes the lead on other land or sea bed contamination issues, should be taken into consideration when deciding upon the scope and level of detail of the assessment on other contamination issues. SEPA understands that the Local Authority can consult with SEPA as necessary about pollution of the water environment. In this regard, SEPA would be happy to advise the Local Authority as required.

There are a number of designated shellfish waters in that area (Islay, Loch Gruinart; Colonsay; Linne, Mhurich; Loch Stornoway and Keills, Knapdale; Lealt Loman's Bay and Small Isles, Jura) Their designation under the Shellfish Water Directive (2006/113/EC) which requires that chemical and microbiological quality standards are met in order to protect human health.

SNH have advised that the applicant will also need to consider impacts, if any, arising through construction activity and the probability and significance of the proposed array presenting a barrier – whether due to noise, turbulence or physical presence – preventing or discouraging the passage of cetaceans, seals and or basking sharks through the Sound. We advised that, in their assessment, the applicant should identify appropriate mitigation for any such effects which appear, potentially, significant. Because of the potential for underwater noise arising through operation of the turbines to cause disturbance or displacement we endorse the proposal set out in the Request for a Scoping Opinion to conduct further research on this issue. We suggest that in addition ambient noise is measured within the Sound in order that the sound generated through device operation may be placed in context.

SNH have advised that, as this proposal is for a demonstration array, it will be importance for the applicant to validate their predictions of collision risk and displacement through post-construction monitoring. SNH will therefore be advising that a requirement for relevant post-construction monitoring should be a condition of any consent for this proposal. We consider that the information







yielded by such monitoring work will be very important in considering the potential impacts of such tidal turbines and in informing further proposals by the applicant for such arrays, here or elsewhere, in the future. SNH recommend that liaison with SMRU to determine the most appropriate approaches to such monitoring and request that SNH be given the opportunity to review and comment upon the programme before it is agreed and implemented.

SNH have advised that the applicant refers to the collision risk report prepared as part of that more general work programme for the SEA. This can be found at:

http://www.seaenergyscotland.net/public_docs/Appendix%20C7.B%20Collisions _report_final_12_03_07.pdf

Apart from these, there is a wealth of data on marine species distribution available through BERR's Offshore Energy SEA website, specifically the reports relating to the SEA 7 Area.

Hydrology and Hydrogeology

The ES should contain detailed statements of the nature of the hydrology and hydrogeology of the site, and of the potential effects the development on these. Developers should be aware that Tidal Sites will have considerable construction implications and these can be conducted without proper regard or understanding of the potential impacts on hydrology, water courses, water quality, water quantity and on aquatic flora and fauna. The assessment should include statements on the effects of the proposed development at all stages on;

- Hydrology
- Water Quality and quantity
- Flood Risk

Impacts on watercourses, lochs, groundwater, other water features and sensitive receptors, such as water supplies, need to be assessed. Measures to prevent erosion, sedimentation or discolouration will be required, along with monitoring proposals and contingency plans.

The applicant should refer to SEPA policy on groundwater which can be found at www.sepa.org.uk/pfd/policies/19/.pfd which will assist in identifying potential risks. It should also be noted that 1:625000 groundwater vulnerability map of Scotland often referred to in Environmental Statements has been superseded by the digital groundwater vulnerability map of Scotland (2003) and the digital aquifer map of Scotland (2004) and it is the information used on these newer maps, available on request from SEPA, that should be used in any assessment.

If culverting should be proposed, either in relation to new or upgraded tracks, then it should be noted that SEPA has a policy against unnecessary culverting of watercourses. Schemes should be designed to avoid by preference crossing watercourses, and to bridge watercourses which cannot be avoided. Culverting is the least desirable option.





The ES must identify all water crossings and include a systematic table of watercourse crossings or channelising, with detailed justification for any such elements and design to minimise impact. The table should be accompanied by photography of each watercourse affected and include dimensions of the watercourse. It may be useful for the applicant to demonstrate choice of watercourse crossing by means of a decision tree, taking into account factors including catchment size (resultant flows), natural habitat and environmental concerns.

Culverts are a frequent cause of local flooding, particularly if the design or maintenance is inadequate. The size of culverts needs to be large enough to cope with sustained heavy precipitation, and allow for the impact of climate change. This must be taken into account by developers and planning authorities. SPP7 and PAN69 provide more information on this aspect.

Measures to avoid erosion of the hillside associated with discharge from road culverting need to be set out in the ES.

All culverts must be designed with full regard to natural habitat and environmental concerns. Where migratory fish may be present (such as trout, salmon or eels) the culvert should be designed in accordance with the Scottish Government guidance on River Crossings and Migratory Fish. This guidance can be found on the Scottish Government website at: www.scotland.gov.uk/consultations/transport/rcmf-06.asp

Where the watercourse is used as a pathway by otters and other small mammals, the design of culverts will need to be modified to accommodate this.

The need for, and information on, abstractions of water supplies for concrete works or other operations should also be identified in the ES.

SEPA have advised that the key interest in relation to this development is pollution prevention during the periods of construction, operation, demolition and restoration. All aspects of site work that might impact upon the environment (both marine and terrestrial), proposed prevention and mitigation measures, and an assessment of residual impact, need to be addressed systematically throughout the ES. Such information is necessary in order to assess the environmental impact of the proposals prior to determination and can also usefully provide the basis for more detailed method statements which may be requested as conditions.

SEPA have advised that the production of work method statements will be essential in ensuring pollution prevention measures are fully implemented and that above information should form a basis for these. These work method statements will relate to any site construction, site operation and maintenance (including transport, cable burying, oil storage etc.) and site restoration.

SEPA have advised that during both the construction and operational phases it is vital that good working practice is adopted and the appropriate steps taken to prevent water pollution and minimise disturbance to sensitive receptors. It is SEPA's experience that well planned operations can still give rise to problems



due to the use of sub-contractors who are not aware of site specific concerns or are inadequately managed.

SEPA have advised that particular care needs to be taken to ensure particulate or chemical contamination of the water environment will not occur due to conservation and water quality issues, for example management of sea water ingress or dewatering of excavations. Any proposed discharges should be set out and dilution data provided. Sensitive uses including private water supplies and abstractions and any impacts needs to be assessed. Some interests of the water environment such as protected species are particularly vulnerable to pollution. SEPA advises that there may be an impact upon marine water quality from various elements, for example discharges from vessels or the turbines themselves, anti-foulant chemicals, hydraulic fluids, oil, storage, dredgings and sediment disturbance. For the avoidance of doubt the ES should included a profile diagram of how the sea floor will appear post construction. For example will the cables be buried under the existing sea floor or will it be placed under imported materials? In addition, the use of any chemicals such as low toxicity drilling mud and any discharges should be included.

SEPA have advised that within the terrestrial environment risks from sediment and mineral oils such as those associated with operations including stockpile storage, storage of weather sensitive materials at lay down areas, haul routes, access roads, earthworks to provide landscaping, mechanical digging of new or existing drainage channels, vehicle access over watercourses, construction of watercourse crossings and digging of excavations (particularly regarding management of water ingress) should be assessed. Details of any permanent surface water drainage from elements such as access roads or roof water should be included within the ES.

SEPA have advised that the ES should specifically address any issues to fuel transport and storage management. There are issues of whether addition to designated bunded fuel stores there are to be mobile bunded stores, whether or not auxiliary power supplies are required in relation to excavation machinery which may require fuel storage or whether fuel storage for vessels is required. Maintenance of machinery can involve usage of oil and oil management needs to be considered. Details of any transformer area bunding at substations should also be submitted. SEPA would prefer to see the establishment of a site compound to avoid having fuel and other chemicals stored at numerous locations along the route. Maintenance of vehicles and plant should be carried out only on impermeable areas where any oil spillage can be contained. With regards to oil, it is imperative that there is a detailed contingency plan to deal with large oil spills that cannot be dealt with at a local level. Information should be provided on if oil-cooled power cables are to be used (in which case contingency measures for rapid response to burst cables should be set out).

SEPA have advised that another aspect that needs to be specifically addressed is working arrangements in relations to concrete production. If there is to be a concrete batching plant, then SEPA would expect this element to be developed and measures to prevent discharge to watercourses set out in detail. Potential requirement for authorisation for the concrete batching process should be discussed at an early stage with SEPA. Measures to avoid pH impact on peatland from use of cement/concrete (e.g. use of blinding cement on roadways,







wash-out during construction, integrity of shuttering) should be set out. Further details on the use of this and any pollution prevention measures should be detailed within the ES.

SEPA have advised that on similar projects applicants have proposed to install temporary vehicular access to landfall points and along whole cable routes. SEPA requests that the location, design details and construction methods for all permanent and temporary access routes are detailed within the ES.

SEPA have advised that if there are to be hardstanding pads associated with cabling, then clarification is needed as to whether they will be removed and ground reinstated or if they are to be retained for future maintenance works. The ES should clarify this and assess impact.

SEPA have advised that it is assumed that on land facilities for workers will be required. Proposed temporary and long term welfare arrangements for workers on land need to be set out including whether sub-stations will incorporate foul drainage facilities. Reference can be made to SEPA's guidance note PPG4 'Disposal of sewage where no mains drainage is available'. In addition the applicant should refer to Pollution Prevention Guidance Note.14 'Marinas and Craft'. Information on what waste facilities would be represent for vessel disposal of foul drainage should be provided. If sites lie within EC designated waters where water quality is of considerable importance then it would be essential that vessels do not discharge foul drainage directly to these waters but make use of shore facilities.

SEPA have advised that is it unclear how fault repairs on the cables or turbines will be carried out. SEPA requests that details of how pollution risks will be minimised during an emergency repair works are contained within the ES.

SEPA have advised that the proposed lifetime of the project is 27 years. SEPA requests details of how the site will be restored or renewed are included within the ES.

SEPA have advised that on similar projects they have found various construction methods are referred to which consenting bodies may have limited experience of assessing. For example the use of water jetting technology, trenching, cable armouring, SEPA advises that the ES provides detailed explanations of the proposed construction methods including detailed drawings, plans and photos. This will enable all interested parties the opportunity to provide meaningful comments when assessing the ES.

SEPA have advised that the need to plan the works in order to avoid construction of roads, dewatering of excavations and other potentially polluting activities during periods of high rainfall is important. The ES needs to demonstrate which periods of the year would be best practice for construction for the site, taking into account need to avoid pollution risks and other environmental sensitivities affecting timing.

SEPA have advised that the proposals for onshore cabling, access tracks and facilities such as construction compounds. Schemes should be clearly designed to avoid impacts upon the water environment and therefore SEPA's preference







would be for watercourses to be avoided where possible. National Planning Policy Guidance 14 'Natural Heritage 'Paragraph 55 states 'Lochs, ponds, watercourses and wetlands are often both valuable landscape features and important wildlife habitats, and planning authorities should seek to safeguard their natural heritage value within the context of a wider framework of water catchment management.

SEPA have advised that where watercourses cannot be avoided they should be bridged (either traditional style bridge or arched culvert) or directional drilled for larger watercourses. SEPA provides guidance on watercourse crossings which can be found at

http://www.sepa.org.uk/pdf/wfd/guidance/engineering/WAT-SG-25.pdf.

Culverting is the least desirable option. If culverting should be proposed then it should be noted that SEPA has a policy against unnecessary culverting of watercourses.

SEPA have advised that the ES must identify all watercourse crossings and include a systematic table of watercourse crossings or channelising, with detailed justification for any such elements and design to minimise impact. The table should be accompanied by photography of each watercourse affected and include dimensions of the watercourse. It may be useful for the applicant to demonstrate choice of watercourse crossing by means of a decision tree, taking into account factors including catchment size (resultant flows), natural habitat and environmental concerns including water supplies, fisheries, FWPM and otters, Where the watercourse is used as a pathway by fisheries, otters and other small mammals, the design of culverts will need to be modified to accommodate this.

SEPA suggest culverts are a frequent cause of local flooding, particularly if the design of maintenance is inadequate. The size of culverts needs to be large enough to cope with sustained heavy precipitation, and allow for the impact of climate change. This must be taken into account by developers and planning authorities. Scottish Planning Policy 7 'Planning and Flooding' and Planning Advice Note 'Planning and Building Standards Advice on Flooding' 69 provide more information on this aspect.

SEPA have advised if any water engineering is proposed as part of the development then the applicant should note the regulatory advice contained below under The Water Environment (Controlled Activities)(Scotland) Regulations 2005 (CAR).

SEPA have advised that the proposals for on-shore facilities should be in line with Scottish Planning Policy 7 'Planning and Flooding', SEPA would expect the sites to be assessed for flood risk from both coastal and fluvial sources. If a flood risk is identified then a Flood Risk Assessment should be carried out in line with guidance in SPP7 Planning and Flooding.

SNH have advised that since the tidal flow at the Sound of Islay is relatively simple, and they are not aware of any sensitive benthic habitats in the vicinity of proposed development, expected changes to waterflow and sedimentation are







to be minimal and insignificant. However, as in paragraphs 8.2 and 8.3 of the SNH scoping response, other studies might be conducted at the Sound of Islay that could prove invaluable for informing developments of similar Tidal Sites in other sites, more sensitive to changes in waterflow and sedimentation, specifically:

Establishing the zone of seabed or shoreline affected by modifications to water flow, modelling the changes to sedimentation or erosion that will result and predicting the implications of this habitat distribution.

11. Other Material Issues

Waste

SEPA state that Paragraph 51 of the Scottish Planning Policy (SPP10) on Planning for Waste management promotes the use of Site Waste Management Plans (SWMP) with all new applications. This will ensure that building materials are managed efficiently, waste is disposed of legally, and that material recycling, reuse and recovery is maximised; by implementing a SWMP sites are likely to benefit form a reduction in waste arising and associated costs. SEPA advises the applicant to prepare a site specific site waste management plan (SWMP) during the formulation of the ES. It is unclear the extent of the on-shore works so not all of these comments may be relevant. The applicant should determine their relevance in the context of the proposals put forward.

In order to comply with National Waste Strategy, SEPA advises that the applicant identifies all of the waste streams (such as peat and other materials excavated in relation to infrastructure) associated with the works detailing measures for handling, managing and minimising the waste produced. The SWMP should also include a soils balance carried out to demonstrate need for importation/export of materials including any backfill of excavations.

SEPA have advised that consideration be given to the possibility to recycled or reprocessed waste soils into a form that allows them to be reclaimed as a secondary raw material. The production and use of secondary aggregates is encouraged. Given experience on other sites, clarification is sought specifically on whether or not waste material is to be imported. Clarification of the amount of any surplus materials to be permanently deposited in mounds and scale of these mounds should also be included.

SEPA have advised that the reuse of demolition and excavation materials is encouraged and the Waste and Resources Action Programme (WRAP) provides information on recycled materials and products (www.aggregain.org.uk). The reuse of construction and excavation material on the application site in encouraged for example, for landscaping and screening purposes.

SEPA have advised that any proposals for reuse or recycling of materials, such as soils from other sites, may require to be registered with SEPA under a Waste Management Exemption or license and the advice of SEPA regulatory staff should be sought in all cases. There are specific criteria which, if met, will





constitute an exemption from licensing, more information on these exemptions can be found on SEPA's website at

www.sepa.org.uk/regulation/waste/exemptions.htm or sought from the local SEPA office.

SEPA advise it should it be proposed that peat should be used at depth to restore excavations such as borrow pits, the applicant would need to demonstrate that this could be done without the release of carbon through oxidisation and without risk to people and the environment. SEPA have advised that waste peat or soil from excavations spread on this land would not necessarily be to ecological benefit; if excavated peat or soil is to be used in landscaping the site, then this should be included in the plans, and not dealt with in an ad-hoc fashion as it arises.

SEPA have advised that the assessment should consider any proposals to transport refuse from the cable laying vessels to shore for treatment and disposal. This should include consideration of opportunities segregation of this waste and where possible waste should be recycled once transported to shore. Further details can be found in Pollution Prevention Guidance Note No.14 'Marinas and Craft'.

Further information on the preparation of these plans can be obtained from Envirowise (www.envirowise.gov.uk/scotland) or the Department Energy and Climate Change

www.constructingexcellence.org.uk//resources/publications/view.jsp?id=2568;

or the Net Regs website (www.netregs-swmp.co.uk). The applicant should also note the regulatory advice attached.

SNH advise the ES should include a risk assessment detailing the types and volumes of possible contaminants which may be released at any point during the lifespan of the proposed development. This should include possible contaminants from vessels used during installation and maintenance as well as from turbines themselves. It should also include information on mitigation measures should an accidental spill occur, detailing how this would be controlled and cleaned up.

Noise

There is the potential for noise to be an issue during the construction of the Tidal Site. Noise predictions should be carried out to evaluate the likely impact of noise from the Tidal Site and associated construction activities.

The Royal Yachting Association have advised that an assessment of what the visual and noise impacts would be and whether these may deter visitors to the area.

FRS have advised that installation of the Subsea cabling may require trenching or piling which will contribute to the underwater noise elements, during the construction particularly when encountering bedrock. These methodologies need to be discussed further in the ES, other offshore activities have been







licensed in the past through FEPA that involved dredging, trenching and piling of bed rock it may be that a condition would be set on the licence to mitigate against potential impacts e.g. time restrictions through seal breeding. Presence of suitably trained marine mammal observer.

FRS also state that underwater noise generated during construction of the Tidal Site or the actual operation of the turbines and the potential to impact on the marine environment is not considered in the scoping opinion. Background noise in the marine environment surrounding the Sound of Islay will be substantial due to the ferries and the wave element, but the construction will have an impact and should be described in context.

Traffic Management

The Environmental Statement should provide information relating to the preferred route options for delivering components for the scheme via the trunk road network. The Environmental Impact Assessment should also address access issues, particularly those impacting upon the trunk road network, in particular, potential stress points at junctions, approach roads, borrow pits, bridges, site compound and batching areas etc.

Where potential environmental impacts have been fully investigated but found to be of little or no significance, it is sufficient to validate that part of the assessment by stating in the report:

- the work has been undertaken, e.g. transport assessment;
- what this has shown i.e. what impact if any has been identified, and
- why it is not significant.

The Northern Lighthouse Board have advised that the impact on both lifeline ferry services and the marine transport system in general should be considered

FRS advised that the size of Port Askaig has to be considered as the devices are arriving at the site by sea, vessel accumulation due to the arrival/maintenance of these devices will have to be pre-approved.

Navigation

The Environmental Statement should supply detail on the possible the impact on navigational issues for both Commerical and Recreational craft, viz.

Collision Risk
Navigational Safety
Risk Management and Emergency response
Marking and lighting of Tidal Site and information to mariners
Effect on small craft navigational and communication equipment
Weather and risk to recreational craft which lose power and are drifting
in adverse conditions
Evaluation of likely squeeze of small craft into routes of larger
commercial vessels.







Visual intrusion and noise

The Northern Lighthouse Board have advised that the impact of this development on Marine Navigation with regard to all classes of vessel in the constricted waters of the Sound of Islay should be considered of high significance within the Environmental Statement. Such impacts will be of a temporary nature during deployment, maintenance and decommissioning of the project, but will also be long lasting with respect to hazards attached to the operation of tidal energy devices.

The Northern Lighthouse Board have advised that full consultation for this project should also be undertaken via the Coast Protection Act 1949: Section 34 process, which should include the submission of a full Navigational Risk Assessment and Marine Traffic Survey where appropriate. Thereafter on receipt of the Section 34 Application, Northern Lighthouse Board will advise on any temporary or permanent navigational lighting or marking, which may be required during the construction, installation and operational phases of the proposed development.

The Chamber of Shipping have assumed that there will be sufficient underwater clearance between the top of the rotor blades and the underside of ships (ferries) which routinely ply the routes through the Sound of Islay so as not to present a hazard at all. In this it is assumed that the mass concrete foundations will be sufficiently robust to prevent any units breaking away.

The Chamber of Shipping have advised that while the actual site, at its extremities, covers most of the Sound of Islay, they would ask you to note that when ferries are berthing and departing from Port Askaig they need plenty of sea room because of the need to take into account the strong tidal currents present and the hazard/difficultly this presents to ships. Any navigational hazard, however temporary which restricts the ships freedom to manoeuvre in the area around Port Askaig must be avoided.

The Maritime and Coastguard (MCA) Agency have advised they see no reason why the navigation review in the Scoping Report be limited to vessels over 100 tonnes.

The MCA have advised that the Navigational Risk Assessment will be expected to comply with the recommendations in MGN 371 (Formerly MGN 275) and the developers will be expected to comply with the requirements in those references above as applicable to the development.

The MCA have advised that while the turbines will be in depths of 40 metres, the height to blade tip above the seabed is given as 30-39 metres will present a danger to surface navigation and the statement that potential effects during operation are not anticipated is questioned.

The MCA have advised that the main potential effects, in table 8, on Commercial Fisheries and Marine Navigation should be commensurately reflected in the EIA which should include recreational craft in the Marine Navigation section.

The MCA have advised that concerns over the use of weights being docked to the footings of the structure and the security of these devices. Additionally they







have concerns over the use of nitrogen or air in the nacelle and the subsequent behaviour of any detached turbine.

Argyll and Bute Council have advised that in relation to the assessment of potential impacts on Maritime Navigation, it may be useful to contact Operational Services, Argyll and Bute Council (Martin Gorringe) in relation to the potential use of Argyll and Bute Council piers and consideration of the Council's Oil Spill Contingency Plan.

The Royal Yachting Association (RYA)have advised that an evaluation of loss of cruising routes, sailing and racing areas, both on a temporary and/ or permanent basis and estimate what the economic impact of this would be.

RYA advise that a detailed map of sailing, racing and cruising routes around the UK coast which proved to be a valuable source of information on recreational boating areas for offshore renewable developers around the UK is available from kate.moore@rya.org.uk

Cumulative Impacts

The Scottish Ministers are of the view that in assessing cumulative effects, it is unreasonable to expect this to extend beyond developments in the vicinity that have been built, those which have permission and those that are currently the subject of undetermined applications. Applicants should therefore have regard to developments within these parameters before finalising their proposals.

12. General ES Issues

In the application for consent the applicant should confirm whether any proposals made within the Environmental Statement, eg for construction methods, mitigation, or decommissioning, form part of the application for consent.

Consultation

Developers should be aware that the ES should also be submitted in a user-friendly PDF format which can be placed on the Scottish Government website. Developers are asked to issue ESs directly to consultees. Consultee address lists can be obtained from the Energy Consents Unit. The Energy Consents Unit also requires 8 hardcopies to be issued internally to Scottish Government consultees.

Where the developer has provided Scottish Ministers with an environmental statement, the developer must publish their proposals in accordance with part 4 of the Environmental Impact Assessment (Scotland) Regulations 2000. Energy consents information and guidance, including the specific details of the adverts to be placed in the press can be obtained from the Energy Consents website; http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-Consents

Argyll and Bute Council have advised that in addition to the proposed list of consultees in Appendix A, the following stakeholders should also be considered as consultees:







Commercial Fisheries:

Clyde Fishermen's Association (CFA), Mallaig and North West Fishermen's Association (M&NWFA), Mull Aquaculture and Fisheries Association (MAFA).

Recreation: -

West Highland Anchorages & Moorings Association; Argyll Charter Boat Association. There are dive sites and a chartered anchorage within the Sound of Islay. The location of these interests can be found in the report – Benfield, S. and McConnell, S. (2007) 'Marine and Coastal Visitor Management, Public Engagement and Interpretation in Argyll and the Islands: the way forward.' Marine and Coastal Development Unit, Argyll and Bute Council.

Gaelic Language

Where s36 applications are located in areas where Gaelic is spoken, developers are encouraged to adopt best practice by publicising the project details in both English and Gaelic (see also Energy consents website above).

OS Mapping Records

Developers are requested at application stage to submit a detailed Ordinance Survey plan showing the site boundary and all turbines, access tracks and onshore supporting infrastructure in a format compatible with the Scottish Government's Spatial Data Management Environment (SDME), along with appropriate metadata. The SDME is based around Oracle RDBMS and ESRI ArcSDE and all incoming data should be supplied in ESRI shapefile format. The SDME also contains a metadata recording system based on the ISO template within ESRI ArcCatalog (agreed standard used by the Scottish Government), all metadata should be provided in this format.

Difficulties in Compiling Additional Information

Developers are encouraged to outline their experiences or practical difficulties encountered when collating/recording additional information supporting the application. An explanation of any necessary information not included in the Environmental Statement should be provided, complete with an indication of when an addendum will be submitted.

<u>Application and Environmental Statement</u>

A developer checklist is enclosed with this report to help developers fully consider and collate the relevant ES information to support their application. In advance of publicising the application, developers should be aware this checklist will be used by government officials when considering acceptance of formal applications.





Consent Timescale and Application Quality

In December 2007, Scottish Ministers announced an aspirational target to process new section 36 applications within a 9 month period, provided a PLI is not held. This scoping opinion is specifically designed to improve the quality of advice provided to developers and thus reduce the risk of additional information being requested and subject to further publicity and consultation cycles.

Developers are advised to consider all aspects of this scoping opinion when preparing a formal application, to reduce the need to submit information in support of your application. The consultee comments presented in this opinion are designed to offer an opportunity to considered all material issues relating to the development proposals.

In assessing the quality and suitability of applications, Government officials will use the enclosed checklist and scoping opinion to scrutinise the application. Developers are encouraged to seek advice on the contents of ESs prior to applications being submitted, although this process does not involve a full analysis of the proposals. In the event of an application being void of essential information, officials reserve the right not to accept the application. Developers are advised not to publicise applications in the local or national press, until their application has been checked and accepted by SG officials.

Judicial review

All cases may be subject to judicial review. A judicial review statement should be made available to the public.

Signed

Authorised by the Scottish Ministers to sign in that behalf.

Enclosed - Developer Application Checklist



DEVELOPER APPLICATION AND ENVIRONMENTAL STATEMENT CHECKLIST

		Enclosed	
1.	Developer cover letter and fee cheque		
2.	Copies of ES and associated OS maps		
3.	Copies of Non Technical Summary		
4.	Confidential Bird Annexes		
5.	Draft Adverts		
6.	E Data - CDs, PDFs and SHAPE files		
En	vironmental Statement	Enclosed	 ES Reference
			(Section & Page No.)
7.	Development Description		
8.	Planning Policies, Guidance and Agreeme	ents □	
-	Economic Benefits		
_	. Site Selection and Alternatives		
11	. Baseline Assessment data – air emission	S □	
	. Design, Landscape and Visual Amenity		
13. Construction and Operations (outline methods) □			
	. Archaeology		
	. Designated Sites		
	. Habitat Management		
	. Species, Plants and Animals		
	.Water Environment		
	.Sub-tidal benthic ecology		
	. Hydrology		
	.Waste		
	. Noise		
	.Traffic Management		
	. Navigation		
	.Cumulative Impacts		
26	. Other Issues		

N.B. Developers are encouraged to use this checklist when progressing towards application stage and formulating their Environmental Statements. The checklist will also be used by officials when considering acceptance of formal applications. Developers should not publicise applications in the local or national press, until their application has been checked and accepted by officials.

