

Our ref: PCS/119333
Your ref: 011/WAVE/APL - 5

Andrew Sutherland
Marine Scotland

If telephoning ask for:
Cerian Baldwin

By email only to: MS.MarineLicensing@scotland.gsi.gov.uk;

17 April 2012

Dear Mr Sutherland

Marine (Scotland) Act 2010
The Marine Works (Environmental Impact Assessment) Regulations 2007 (As Amended)
The Electricity Act 1989
The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000
Proposed section 36 application for the West Coast Lewis Wave Array

Thank you for your consultation letter which SEPA received on 20 March 2012. We ask that the **conditions** in Sections 2 and 3 be attached to the consent. If any of these will not be applied, then please consider this representation as an **objection**. Please also note the advice provided below.

This advice is given without prejudice to any decision made on elements of the proposal regulated by us, which may take into account factors not considered at the Section 36 or Marine Licence stage.

Advice for the determining authority

- 1. The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR)**
 - 1.1 The proposed culvert for the access track is likely to be consentable under CAR and all engineering works below Mean High Water Springs are not controlled under CAR. Therefore we have **no objection** relating to this issue and consider that the proposal falls under Category 1 in that it generally accords with Water Framework Directive objectives.
- 2. Environmental management**
 - 2.1 We welcome the general mitigation principles and pollution prevention measures set out in the Environmental Statement. We note the proposed overarching Health, Safety and Environmental Management System including the proposed Environmental Management Plan, Environmental Monitoring and Mitigation Plan, Construction Method Statement, Pollution Incident Response Plan and Construction Environmental Management Document in Section 23.6 of the Environmental Statement. We would wish to be consulted on the marine and terrestrial elements of all of these documents.
 - 2.2 Some of proposed measures relate to works which may be regulated by us. However, many of the works will not be regulated by us and need to be covered by condition.



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David Sigsworth
Chief Executive
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Therefore, we request that a **condition** is attached to the consent requiring the submission of the above Health, Safety and Environmental Management System. If this is not attached, then please consider this representation as an **objection**. To assist, the following wording is suggested:

At least two (2) months prior to the commencement of any works, a site specific Health, Safety and Environmental Management System must be submitted for the written approval of the determining authority [in consultation with SEPA] [and other agencies such as SNH as appropriate] and all work shall be carried out in accordance with the approved plan. Reason: to control pollution of air, land and water.

- 2.3 Further guidance on what should be included within the Health, Safety and Environmental Management System can be found on our website. In addition we wish to highlight that the Health, Safety and Environmental Management System should include details of how any surplus peat will be re-used. Useful guidance on this can be found in Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and Minimisation of Waste which refers to windfarms but contains advice applicable to other developments. Details of any stockpiles, wheel washing, layout of the surface water drainage system should all be detailed within the draft EMP so that we agree the pollution prevention measures.

3. **Groundwater dependant terrestrial ecosystems (GWDTEs)**

- 3.1 We agree with Section 8.5.17 of the Environmental Statement which acknowledges that the absence of GWDTEs cannot be confirmed without further investigation. However we consider that the identified wetlands are likely to have a significant rainwater feed. As most of the infrastructure is on the periphery of the likely wetland areas and floating road is proposed, any impact is likely to be minimal. We therefore request that a **condition** is imposed requiring all the access track to be of floating road construction. If this will not be applied, then please consider this representation as an **objection**. Please also note the advice provided below.

Regulatory advice

4. **Regulatory requirements**

- 4.1 The proposed culvert and waste water discharges will require authorisation under The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR). The re-use of surplus peat may require an exemption under Waste Management Licensing (Scotland) Regulations 2011. Any proposals for concrete batching will require a permit under The Pollution Prevention and Control (Scotland) Regulations 2000 (PPC).
- 4.2 Details of regulatory requirements and good practice advice for the applicant can be found on our website at www.sepa.org.uk/planning.aspx. If you are unable to find the advice you need for a specific regulatory matter, please contact a member of the operations team in your local SEPA office at James Square, James Street, Stornoway HS1 2QN Tel: 01851 706477.

If you have any queries relating to this letter, please contact me by telephone on 01349 860415 or e-mail at planning.dingwall@sepa.org.uk.

Yours sincerely

Cerian Baldwin

Senior Planning Officer
Planning Service

Copy to: [REDACTED]@aquamarinepower.com;



Scottish Natural Heritage
Dualchas Nàdair na h-Alba

All of nature for all of Scotland
Nàdar air fad airson Alba air fad

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Your ref: 011/WAVE/APL - 5

Our ref:
CNS/REN/WAVE/LEWIS WAVE
ARRAY/CLC112784

Date: 31 May 2012

By email only:
ms.marinelicensing@scotland.gsi.gov.uk

Dear Mr Sutherland,

PROPOSAL: NORTH WEST LEWIS WAVE ARRAY - LEWIS WAVE POWER LIMITED

SECTION 36 OF THE ELECTRICITY ACT 1989
MARINE (SCOTLAND) ACT 2010, PART 4: MARINE LICENCE

Thank you for your consultation of 19 March requesting our advice on this proposed wave energy converter (WEC) array located between Siadar and Mealabost, north west Lewis, and for the agreed extension to the consultation period.

Advice

We consider it is likely that the deployment of this wave array can be implemented without serious adverse effects on the natural heritage. There are, however, outstanding **issues of European interest that require further consideration** before this can be concluded with confidence.

Our assessment of the interim data submitted at the end of 18 months of vantage point monitoring for birds and marine mammals suggest no likely significant effect for all relevant Special Areas of Conservation (SAC) and most relevant Special Protection Areas (SPA) qualifying features. However there is one exception for red-throated divers, a qualifying feature of Lewis Peatlands SPA. Only one year of summer vantage point (VP) survey data has been analysed and there are some unexpected patterns in the data for this species. A second year of results would help to confirm that the data is truly representative of the activity in different years. **We therefore object to this proposal until collection and analysis of the second year of baseline VP survey data is complete.** This will inform and complete our advice in respect of Habitat Regulations Appraisal (HRA) of the impact of the development on qualifying interests of SPAs.

If this 2nd year of data demonstrates that the proposed wave array would not have any likely significant effect (LSE) on red-throated divers and hence no adverse affect on the integrity of Lewis Peatlands SPA we would be able to remove our objection.

If Marine Scotland are then minded to grant a Marine Licence and S36 consent, we would recommend a number of conditions being attached which would help ensure

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good practice is followed in this emerging sector of commercial scale wave energy production.

Further information and advice

Environmental Statement

We welcome that the applicants have undertaken an Environmental Statement (ES) in support of this application. However, we consider the submission of the ES in advance of the provision of 2 years of baseline VP survey data to be premature. We have been consulted and provided scoping and HRA advice that we would require 2 years of baseline VP survey data to complete our appraisal of the impacts of the proposal and we are disappointed that this advice has not been given due consideration.

Appendices A and B contain detailed advice on our appraisal of the proposal in relation to HRA for SACs (Appendix A) and SPAs (Appendix B).

Appendix C contains further advice and comments on the content of the Environmental Statement (ES).

We hope these comments are helpful. If further information or advice is required please contact Tracey Begg in the first instance: tracey.begg@snh.gov.uk or 01876 580236.

Yours sincerely,

A large black rectangular redaction box covering the signature area.

SUSAN DAVIES
Director – Policy and Advice

Cc Hannah Morrison, Comhairle nan Eilean Siar (CnES)
Mark MacDonald, SNH, Stornoway

APPENDIX A

NORTH WEST LEWIS WAVE ARRAY - LEWIS WAVE POWER LIMITED

HABITATS REGULATIONS APPRAISAL – SPECIAL AREAS OF CONSERVATION (SAC)

- I. Where a plan or project could affect a Natura site, the Habitats Regulations require the competent authority (Marine Scotland and CnES) – the authority with the power to undertake or grant consent, permission or other authorisation for the plan or project in question – to consider the provisions of regulation 48. This means that the competent authority has 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.
- II. This process is now commonly referred to as **Habitats Regulations Appraisal (HRA)**. HRA applies to any plan or project which has the potential to affect the qualifying interests of a Natura site, even when those interests may be at some distance from that site.
- III. The competent authority, with advice from SNH, decides whether an appropriate assessment is necessary and carries it out if so. It is the applicant who is usually required to provide the information to inform the assessment. Appropriate assessment focuses exclusively on the qualifying interests of the Natura site affected and their conservation objectives. A plan or project can only be consented if it can be ascertained that it will not adversely affect the integrity of a Natura site (subject to regulation 49 considerations).

Appraisal of impacts of North West Lewis Wave Array in relation to relevant SACs

1. Following submission of a scoping report, the ES and interim reports covering 18 months VP survey data, we conclude no likely significant effect for qualifying features of relevant SACs.

Monach Islands SAC – grey seals

North Rona SAC – grey seals

2. The Monach Islands and North Rona SACs are designated for breeding grey seals. The proposed development is located approximately 83 km SW of North Rona SAC and approximately 120 km NE of the Monach Islands SAC.

Appraisal in relation to the SAC qualifying features

<p><u>Step 1:</u> Is the proposal directly connected with or necessary for the conservation management of the SAC?</p>

The Lewis Wave Array proposal is not directly connected with or necessary for the conservation management of the Monach Islands or North Rona SACs.

Step 2: Is the proposal likely to have a significant effect on the qualifying features of the SAC either alone or in combination with other plans or projects?

The conservation objectives of the sites are:

(i) to avoid deterioration of their habitat or (ii) significant disturbance to them, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the grey seals that the following are maintained in the long term:

(iii) Population of grey seals as a viable component of the site.

(iv) Distribution of grey seals within site.

(v) Distribution and extent of habitats supporting grey seals.

(vi) Structure, function and supporting processes of habitats supporting grey seals.

repeat of (ii) No significant disturbance of grey seals.

SNH current advice in relation to the HRA

3. Using the information provided in the ES, our knowledge of grey seal ecology and SACs, we offer the following advice:
4. **We advise that, in our view, the proposal will have no likely significant effect on the grey seal qualifying feature interests for Monach Islands or North Rona SACs.** The appraisal we carried out considered the following factors:
 - The proposal is far enough away from SACs for there to be no direct impacts, or disturbance, to the seals while they are within the SACs;
 - The scarcity of seals using the site (relative to the total SAC populations), indicated by 18 months of VP survey data collected between September 2010 and March 2012, supplied by Natural Research Projects and assessed by SNH;
 - Analyses of seal telemetry data collected by the Sea Mammal Research Unit (SMRU) which indicate limited use of the development area by seals originating from these SACs;
 - The large extent of alternative foraging habitat available to seals, based on their known foraging ranges, should localised displacement occur due to disturbance;
 - The low risk of entanglement and entrapment for seals due to the design specifications of the Oyster device.

These factors suggest that there would be no detectable impact on the qualifying features of the SACs.

APPENDIX B

NORTH WEST LEWIS WAVE ARRAY - LEWIS WAVE POWER LIMITED

HABITATS REGULATIONS APPRAISAL – SPECIAL PROTECTION AREAS (SPA)

- I. Where a plan or project could affect a Natura site, the Habitats Regulations require the competent authority (Marine Scotland and CnES) – the authority with the power to undertake or grant consent, permission or other authorisation for the plan or project in question – to consider the provisions of regulation 48. This means that the competent authority has 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.
- II. This process is now commonly referred to as **Habitats Regulations Appraisal (HRA)**. HRA applies to any plan or project which has the potential to affect the qualifying interests of a Natura site, even when those interests may be at some distance from that site.
- III. The competent authority, with advice from SNH, decides whether an appropriate assessment is necessary and carries it out if so. It is the applicant who is usually required to provide the information to inform the assessment. Appropriate assessment focuses exclusively on the qualifying interests of the Natura site affected and their conservation objectives. A plan or project can only be consented if it can be ascertained that it will not adversely affect the integrity of a Natura site (subject to regulation 49 considerations).

Appraisal of impacts of North West Lewis Wave Array in relation to relevant SPAs

4. Following submission of a scoping report, the ES and interim reports, we conclude no likely significant effect for qualifying features of relevant SPAs with the exception of Lewis Peatlands SPA, which requires further consideration:

Lewis Peatlands SPA – red throated divers

5. The Lewis Peatlands SPA is designated for breeding red-throated divers. The proposed development is located approximately 3 km west of this SPA. Due to the scarcity of the other SPA bird features recorded during year 1 of VP observations and the lack of potential impact routes, we consider the proposal is unlikely to have a significant effect on the other features of the SPA, namely breeding black-throated diver, dunlin, golden eagle, golden plover, greenshank and merlin.

Appraisal in relation to the SPA qualifying features

<p>Step 1: Is the proposal directly connected with or necessary for the conservation management of the SPA?</p>
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The Lewis Wave Array proposal is not directly connected with or necessary for the conservation management of Lewis Peatlands SPA.

Step 2: Is the proposal likely to have a significant effect on the qualifying features of the SAC either alone or in combination with other plans or projects?

The conservation objectives of the site are:

(i) to avoid deterioration of their habitat or (ii) significant disturbance to them, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for the species; and

To ensure that the following are maintained in the long term:

(iii) Population of the species as a viable component of the site.

(iv) Distribution of the species within site.

(v) Distribution and extent of habitats supporting the species.

(vi) Structure, function and supporting processes of habitats supporting the species.

repeat of (ii) No significant disturbance of the species.

SNH current advice in relation to the HRA

6. Using the information provided in the ES, our knowledge of red-throated diver ecology and SPAs, we offer the following advice:
7. In our view, interim data within the first year of VP survey report for birds suggest no likely significant effect for Lewis Peatlands SPA breeding red-throated divers. However, only one year of VP survey data has been analysed to date hence this advice is indicative rather than conclusive as we are unable to complete our appraisals without provision of baseline VP data covering a two year period.
8. This is because the interim report for year 1 of VP surveys indicated there are some unexpected patterns in the data collected in relation to red-throated divers i.e. why red-throated divers from Lewis Peatlands SPA do not favour the site more heavily during the breeding season. Large numbers of birds are within easy foraging range and this species does use the development site in winter. For these reasons a second year of results would help to confirm that the data is truly representative of activity in different years.
9. We therefore advise that, in our view, based on our appraisal carried out to date, **there is currently insufficient information within the ES to conclude no likely significant effect on red-throated divers, a qualifying feature of the Lewis Peatlands SPA.**

APPENDIX C

ADVICE ON NATURAL HERITAGE INTERESTS CONSIDERED IN THE ENVIRONMENTAL STATEMENT (ES)

Our advice includes recommended conditions to follow good and or emerging good practice, where applicable:

- ci. Designated Sites
- cii. Coastal processes
- ciii. Protected species
- civ. Fish and shellfish
- cv. Benthic ecology
- cvi. Underwater noise
- cvi. Ornithology
- cviii. Seascape, landscape and visual impact assessment
- cix. Recommendations for Conditions

ci. Designated sites

Natura sites

Please see [Appendix A](#) and [Appendix B](#) respectively for our HRA advice for SACs and SPAs.

cii. Coastal processes

Summary

10. We agree that the information presented in relation to coastal process (ES Chapters 7 and 8) has considered the most relevant and significant issues.
11. The Geological Conservation review (GCR) site which lies immediately adjacent to the north and south of the Offshore Development Area (ES Volume 1, Figure 1) is not specifically mentioned in the ES, despite references to the Quaternary features within the text of Chapter 7 and Appendix 7.3. However, the conclusion that the coastline has no features at risk from the proposed works remains largely robust.
12. We agree that the impacts on the shoreline and therefore the features are likely to be negligible, provided that the shoreline pipeline is directionally drilled.
13. The location of all infrastructure should be in a location which is 'future-proof' with regard to coastal erosion and flooding. For example, the illustrative Figure 3 within the Non Technical Summary, shows the 'pipeline common landing area' relatively close to the beach, it would be prudent for all infrastructure to be located and designed with climate change implications in mind.

Coastal Processes - detailed comments on the ES

14. The extent of proposed horizontal directional drilling (HDD) is unclear. It would appear the HDD will extend from approximately the substation to below the intertidal (i.e. seaward of Lowest Astronomic Tide). However, Chapter 7 (section 7.6.33) states that there will be temporary and local changes associated with the landfall works. If HDD is

used, there should be no impacts. However section 5.4.11 to 5.4.13 and paragraph 7.6.74 appear to raise doubt over this position. Given the number and diameter of the pipelines, combined with the availability of the sediments and processes to move them, if the pipelines were surface laid across the intertidal or the near-shore, than they may interrupt sediment supply.

15. There is uncertainty over the proportion of energy to be extracted from the wave climate. Paragraph 7.6.43 states, "*The final specifications of the Oyster devices deployed will be determined by experience gained from previous designs. Therefore, without full knowledge of all parameters it is difficult to accurately assess the potential energy losses associated with the proposed development during the operational phase.*" We consider that the existing wave energy is likely to greatly outweigh the energy extracted by the devices. The following paragraphs up to 7.6.54 discuss the higher anticipated changes to processes and identify that reduced wave energies are expected in the lee of the Oysters during calm conditions, compared with minor changes during storm events. We are reassured by the recommendations made in paragraph 7.6.56, that follow-up surveying will investigate the implications on coastal processes and sedimentation.
16. We share the view that the impacts on the shoreline and therefore the features are likely to be negligible, provided that the shoreline pipeline is directionally drilled.

ciii. Protected species

Summary

European Protected Species (EPS) - cetaceans

Wildlife and Countryside Act 1981 and the Wildlife and Natural Environment (Scotland) Act 2011 - basking sharks

17. Reliance on a single year's data severely limits the reliability of the assessments in the ES, particularly in a location where there is very limited background information on the distribution of marine mammals and basking sharks. We remain concerned that the ES is premature in delivering an assessment before a second year of monitoring has been completed and analysed. However, we welcome the commitment to complete a second year of monitoring (Section 11.4.19). A second year's data would help to properly characterise the baseline status of the site and take some account of between-year variability.
18. There is a potential for disturbance and displacement of cetaceans (EPS) and basking sharks during the installation and maintenance of the wave array, caused by increased vessel activity and associated noise, such as drilling of sockets for pile pins (installation only) and HDD. During wave energy converter (WEC) operation, there is a potential for noise disturbance and displacement.
19. Significant uncertainty remains with operational impacts, primarily because this technology has not been deployed on this scale before. However, the year 1 survey results, if they can be shown to be representative, suggest that this has the potential to be a relatively benign and well-sited development in respect of marine mammals and basking sharks.
20. Chapter 11 is based very largely on the 'Marine mammal year 1 survey report' by Royal Haskoning (Appendix 11.2). We commented on this document in our letter of 17 February 2012 and broadly commended it while making comments and recommendations. This consultation response should be read in conjunction with our previous advice.

21. Section 5.4.14 states that as yet no decision has been taken regarding the installation methodology for the shoreline pipeline. These will be surface laid or directionally drilled. This decision has the potential to significantly affect the acoustic impacts on cetaceans and basking sharks during construction. There is no discussion about directional drilling noise in Chapter 11 or Appendix 11.2.
22. Most of the activity appears to be planned for the summer months, which is the time when the highest numbers of cetaceans have been recorded within the area. Currently no mitigation or monitoring is proposed to assess the impacts of work activities on marine mammals and basking sharks. We advise that both an EPS/basking shark licence may be required, since some disturbance may occur (albeit at relatively low levels) over an extended period of time.

Cetaceans and basking sharks - detailed comments on the ES

23. The need for licences could be potentially offset by putting appropriate mitigation in place and although none is proposed in the ES, there is a commitment to develop a best practice protocol (11.6.11). This should form part of the Environmental Management and Mitigation Plan (EMMP). The phased approach (Section 5.5.1) of the proposal allows considerable scope for adaptive approach with regard to protocol, mitigation and monitoring of any significant negative impacts.
24. We agree that the ES identifies all the major potential impacts likely to result from construction and operation of the wave array.
25. No information within section 11.5 places the area of search in a wider national or regional context or offers comparisons with other sites. It is important to note that a lack of data does not always mean a lack of wildlife interest. Table 11.2 lists the sources of the literature review on marine mammals and basking sharks, but did not identify recent boat based cetacean surveys in the region (undertaken by Hebridean Whale and Dolphin Trust) nor analyses of seal telemetry data from North Rona (Sea Mammal Research Unit) as specifically requested in our comments following submission of the year 1 survey report. This represents a significant weakness, particularly given the paucity of other information from the region and the difficulties in establishing the baseline environmental conditions.

Seals

26. There is a potential for disturbance and displacement of seals during the installation and maintenance of the wave array, caused by increased vessel activity and associated noise, such as drilling of sockets for pile pins (installation only) and HDD. During operation there is a potential for noise disturbance and displacement.
27. Gasker is the nearest significant haul out for grey seals – there are a number of smaller haul outs closer to the development, the nearest of which is Dell Rock 8km from the Mealabost VP.
28. We highlight the report by SMRU on the preliminary findings of investigations in to the causes of the recent spate of "corkscrew" injuries to seals¹. The injuries are consistent with the seals being drawn through a ducted propeller such as a Kort nozzle or some types of Azimuth thrusters. Such systems are common to a wide range of ships including tugs, self propelled barges and rigs, various types of offshore support vessels and research boats. Such systems may be used on the installation vessels. We request that the applicant considers the type of vessels to be used during survey,

¹ <http://www.smru.st-andrews.ac.uk/newsItem.aspx?ni=308>

installation and operation, and is mindful of the potential need for mitigation should vessels employing this type of propulsion be utilised.

civ. Fish and shellfish

Summary

21. We welcome the overall good quality of the assessment of the impacts on fish and shellfish within the ES.
22. As an area of open coast, rather than a bay or estuary, we consider the area where the proposal is sited to be of relatively lesser functional importance as a nursery ground, at least in the context of the availability of similar habitats and less likely to represent a barrier to movement.

Fish and shellfish - detailed comments on the ES

23. Section 1.16 of the non-technical summary states that all fish and shellfish impacts are considered to be of 'negligible significance'. This does not match with the assessment in the ES itself, for which there is one of 'minor' significance.
24. Although phase 1 pile installation is planned for May to July 2014, it is stated that there may be additional pile installation while the vessels and equipment are available. This would presumably extend operations in to other months. This may be an important detail for the impact assessment.
25. Table 12.10 summarises the sensitivities of species to impacts, however, not all impacts are shown in the table. There are blank fields and it is not clear what 'not relevant' means in the context of this table, similarly, the difference between 'increasing turbidity and change in suspended sediments' are not defined.
26. No mitigation is proposed for substratum/benthic habitat loss effects on fish and shellfish, which may be of up to nearly 260,000m² of seabed. Micro-siting of devices should be carried out in such a way as to avoid/minimise the need for removal of rock and infilling of gullies, kelp removal or damage to sensitive epifauna such as sponges and hydroids.
27. Section 12.6.9 states the impact of 'negligible' is appropriate for many species however, it is unlikely to apply to all fish and shellfish in the area. The scale of loss/alteration of habitat is considerable on the local scale and is likely to be of greater significance to species of lesser mobility, higher site fidelity, limited dispersal ability or lower fecundity.
28. In section 12.6.48 the residual effect of introducing new benthic habitat is marked as 'minor beneficial'. Even if this can be achieved for benthic crustaceans (particularly lobsters), which is speculative at present, the conclusion given cannot be assumed to apply to all fish and shellfish. The residual significance should either relate to the worst impact or provide a range where different species respond differently.
29. Table 3.1 of Appendix 11.2, Underwater Noise Impact Study by Kongsberg does not provide an adequate summary of the fish species relevant to the area. However, this is unlikely to change the interpretation of the study for the impact assessment.

cv. Benthic ecology

Summary

30. The benthic habitat survey methodology is appropriate and the results are consistent with what we would anticipate to find across the area of development.
31. The intertidal survey is adequate as a qualitative baseline survey of the intertidal region. The biotopes identified are what we would expect to see in this exposed part of the coast. However, if the intention is to use this survey as a baseline against which to monitor changes due to the Oyster devices extracting energy from the waves (as stated in section 1.1 of this report), this type of survey is not suitable. A more quantitative and detailed survey would be needed, including transects which could be used to detect changes in vertical zonation on the shore (relating to changes in wave exposure caused by the devices). These transects could then be monitored as part of an ongoing monitoring programme.

Benthic ecology - detailed comments on the ES

32. Section 9.2.1 states that no particular features of conservation importance were found. The benthic survey reported one Priority Marine Feature (PMF) ('*Laminaria saccharina* and filamentous red algae on infralittoral sand' (SS.SMp.KSwSS.LsacR.Sa)) to the north of the Siadar site. However, we do not consider this will change the conclusions outlined in the ES.
33. With regard to kelp removal, a worst-case scenario of removal of 25.97 ha is projected. This is a relatively small area (<0.16%) of the total estimated area of kelp in the Outer Hebrides (16,605 ha – Wilkinson 1995). In addition, recovery rates should be quite high, with recruitment from surrounding areas.
34. We agree with the choice of the diver option for removal, rather than any mechanical techniques, as this would cause less damage to other species and habitats.
35. Section 9.6.7 concludes that the impacts of direct habitat loss are negligible. We agree with this statement however, if horse mussels (*Modiolus modiolus*) beds (or any other sensitive feature) were found during construction, this assessment would change. Horse mussels were not found in the current surveys. However, they have been recorded previously in the area, so it is possible they may be present in the Offshore Development Area.
36. Checks should be made during micro-siting of individual devices for the presence of horse mussel beds and if found, these should be avoided to prevent direct damage to the beds and potential damage as a result of smothering.

cvi Underwater noise

Summary

37. Overall, the assessment of the likely impacts of noise levels on a range of receptors (fish, cetaceans, seals) is thorough. The noisy activities that they have identified are: drilling (for pin piles), vessel noise and operational noise. Vessel noise is the loudest of the three.
38. We welcome the use of background noise measurements, particularly those taken at Billia Croo to inform their modelling of drilling noise for this proposal.

39. Predicted noise levels from all sources (drilling, vessel and operational) are below levels that could cause death, non-auditory injury, Permanent Threshold Shifts (PTS) or Temporary Threshold Shifts (TTS).
40. As previously highlighted (see protected species – cetaceans), we note that HDD noise has not been included in the noise impact study. No decision has yet been taken regarding the installation methodology for the shoreline pipeline. These will be surface laid or directionally drilled. This decision has potential to significantly affect the acoustic impacts on cetaceans and basking sharks during construction.

Underwater noise - detailed comments on the ES

41. Behavioural responses are possible within close range of the vessels and devices. The largest impact zone is for minke whales and vessel noise, where a strong avoidance reaction is expected to 208 m and a mild avoidance reaction to 1700 m. Equivalent values for other species of cetaceans and fish are considerably smaller than these. Given that this is an open coastline (therefore no entrapment or barrier effect), and the lack of evidence that this location is a particular sensitive area for these species (e.g. for feeding / breeding / nursery), we accept the conclusion that there will not be high levels of noise disturbance.
42. However, there is potential for these low levels of disturbance due to noise to last for an extended time. It is predicted that vessels will be on and off site during phase 1 (3 devices) for two months, with drilling taking 14 days. For the later stages (up to 15 devices), this will presumably be longer. Most of the activity appears to be planned for the summer months, which is the time when highest numbers of cetaceans have been recorded within the area.

cvii Ornithology

Summary

43. Reliance on a single year's data severely limits the reliability of the assessments in the ES. A second year's data would help to properly characterise the baseline status of the site and take some account of between-year variability. This would greatly help us to better understand the post-construction impacts of the industrial deployment of this novel technology in Scottish waters.
44. There are some unexpected patterns in the bird data and a second year of results would help to confirm that the data is truly representative of activity in different years. These include:
 - Why red-throated divers from Lewis Peatlands SPA do not favour the site more heavily during the breeding season. Large numbers of birds are within easy foraging range, and this species does use the development site in winter;
 - Why the area is not used more by foraging Gannets when a food resource clearly exists for other species.
45. The assessment construction impacts in the ES are insubstantial and many construction aspects have yet to be finalised. However, even with these limitations, construction impacts can probably be managed to be acceptably small, especially if the developer adopts a flexible approach to issues of species mobility and to the different sensitivities of breeding birds at different times of year.
46. Significant uncertainty remains with operational impacts, primarily because this technology has not been deployed on this scale before. However, the year 1 survey results, if they can be shown to be representative, suggest that this has the potential to

be a relatively benign and well-sited development in respect of the bird interests present.

47. Chapter 10 is based very largely on the 'Year 1 Bird Surveys Technical Report' by Natural Research Projects. We commented on this document in our letter of 23 January 2012 and broadly commended it while making comments and recommendations. This consultation response should be read in conjunction with our previous advice.
48. It is disappointing that none of our suggestions appear to have been taken on board including:
 - Limitations of survey methodology and resultant data quality issues not acknowledged or addressed. The most serious issue is the use of a distance method across an ecological gradient. In the face of this, alternative lines of evidence need to be considered to back up the primary survey methodology, eg. boat-based or aerial surveys;
 - Assessment based on one year's data only despite our clear and repeated recommendations for more than one year's survey work.

Ornithology - detailed comments on the ES

49. We previously advised that non-breeding red throated diver, great northern diver and eider are the bird interests that merit most consideration. Section 10.2.3 confirms that only these three species occur in numbers that meet or exceed 1% of the respective regional wintering estimates. This is an accurate statement based on a single year's data.
50. All impacts are judged to be of negligible magnitude to all bird species and not to be significant. We can currently have only limited confidence in this statement because it is based on a single year's data only and because the assessments are largely qualitative in nature.
51. We disagree that quantitative assessments cannot currently be undertaken for many of the potential impacts. To attribute climate change for the lack of such assessments is an inadequate conclusion.
52. In section 10.4.6 the text suggests that we have already advised no LSE for any species. We in fact stated that interim results from one year appear to indicate no LSE for red-throated diver on Lewis Peatlands SPA, but that we would provide full assessment on all species after the year 2 VP work was complete and written up.
53. In section 10.4.35, 5 bird species are categorised as low Nature Conservation Importance (NCI) because most observations were of overflying, not foraging birds. This effectively excluded these species from more detailed assessment. The categorisation of gannet as of low NCI is of particular concern given the abundance of records of this species, the likelihood of strong SPA connectivity and the potential for collision mortality to plunge-diving birds.
54. A Breeding Bird Protection Plan is proposed (section 10.6.2), and this is to be welcomed. A generic 500m buffer may not, however, be sufficient for all species present.
55. In section 10.6.5, evidence presented for low susceptibility of birds to disturbance is vague, selective and unconvincing. The 2nd sentence here is misleading as it applies only to high or moderate NCI species, not all species as suggested. Dunlin and Curlew

are not tied to fixed nest sites from year to year so these species, as well as other ground nesters, may nest closer to the development in some years.

56. Gulls nesting at 750m will probably be unaffected (section 10.6.6), but these colonies can shift their location from year to year. In addition the spatial extent of 'disturbing' activities and their intensity does not appear to have been fully quantified. Evidence from early deployment of Oyster in Orkney suggests that a larger lay-down area than anticipated may eventually be required.
57. We do not agree that the major engineering works involved in this proposal, extending over several years, can be called "short-term". In addition, the comparison with response of seabirds to survey vessels is not comparable to the more intense and noisy activities that would be associated with construction. The claim that birds would be "temporarily inconvenienced" has no ecological basis. The assumption is that the birds will simply go elsewhere is too simplistic, particularly if preferred feeding areas are affected. Modelling a worst-case displacement scenario, at least for the three wintering species of most concern, as they have done for operational disturbance (section 10.6.32) could address this issue.
58. We agree that entrapment is probably unlikely, but the risk of collision to plunge-diving species, specifically gannet, should be acknowledged. Birds may be unable to properly assess the location of the underwater mass of the WECs as they move in the waves with different degrees of visibility; they will be a novel devices in the birds' environment, with associated uncertainty over avoidance by diving birds.

cviii Seascape, landscape and visual impact assessment

Summary

59. We agree with the conclusion predicting significant adverse effects on the Mealabost to Rubha na Caillich Local Coastal Character Area and significant adverse effects on views from the Mealabost to Rubha na Caillich coastline.
60. Depending on local screening and the direction of view, there will be significant and adverse visual impacts for residents of both Borve and Mealabost, caused by the onshore and offshore development. Depending on conditions and the direction of view, adverse visual impacts will also affect visitors/walkers along the coast between Mealabost to Rubha na Caillich.
61. We agree with the prediction of significant adverse cumulative effects on the Mealabost to Rubha na Caillich Local Coastal Character Area, when taking the effects of the consented Siadar Wave Energy Scheme into account.
62. Further information is needed on offshore and onshore lighting requirements and more detailed information on the design and appearance of the onshore buildings, compounds and pipeline landing areas. Although this is an innovative project, high standards and simplicity of design in terms of the onshore infrastructure would benefit the man-made environment on this stretch of the Lewis coast.

Seascape, landscape and visual impact assessment - detailed comments on the ES

63. The ES follows our advice provided at scoping. It is logical and clearly sets out the existing landscape baseline of the coast and hinterland, against which balanced judgements of the possible changes arising from the development are made. It defines two LCCAs:

- Mealabost to Rubha na Caillich where settlement is set back from the coastal edge; the coast is low with long, projecting rocky outcrops and a low rocky cliff line; it is very exposed with wide expansive seascapes; there are few focal features with only distant headlands and islands visible to the south-west; the immediate hinterland is formed by subtle ridges.
 - Gabhsann to Mealabost where the coast is even, formed by low cliffs and a narrow rocky coastal platform; absence of landmark features on/offshore.
64. Visualisations are intended to demonstrate the predicted impacts as far as possible, we consider there are limitations with the quality of photographic images and graphics to be able to achieve this. Useful guidance is given in SNH's *Visual Representation of Windfarms: Good Practice Guidance, 2007*. Photographs and wirelines are used to illustrate the predicted impacts at seven VPs and, where appropriate, photomontages indicate the extent of the WECs. Unfortunately, the images, as submitted, are poor due to the quality of reproduction. The images lack contrast and detail and consideration of the printing medium would improve their legibility and be more informative in depicting the extent of the development (see VRW 257-263), including the on-shore buildings. This should include information to accompany the visualisations.
65. As a result, the visualisations do little to aid informed understanding of the wave array's impacts and, if anything, understates their visual impact.
66. The wirelines depict the rectangular outline of the 26-33m 'flaps', riding proud of the water. It is suggested that the wirelines could be improved by illustrating some of these impacts using coloured 3D rendering (see VRW 223), sketches, annotated visualisations or hand drawings (see VRW 113-231) to better illustrate the solidity of the structures.
67. The SLVIA adequately assesses the likely impacts of the construction and operation phases.
68. We note that the siting of the onshore buildings takes advantage of the relief in landform, the site chosen is '*relatively sheltered from view, located between the sea and a 30m hillside*' (4.6.4.) In this open, expansive landscape, vertical elements will dominate. The existing buildings are all domestic 1.5 – 2 storeys, from 6-10 metres high. The assessment notes the onshore development will be '*larger, and different in form, to the characteristic small croft houses...sites in an isolated position close to the coast...not conform to the existing pattern of croft houses clustered in a distinctive loose linear arrangement and generally set back from the sea*'. This provides reasoning for recommending further consideration of the design and detailing of the buildings. Few details on this aspect of the proposal are given within the ES and more detail about the design and form of the onshore development would be beneficial. Good detailing should provide some positive benefits in terms of the human environment in Siadar.
69. There is insufficient detail about the common pipeline landing area and we note that mention is made (5.5.20) of a level corridor to be made across the beach within the surf zone, however, this may occur at a number of separate landing areas. There is also mention made of a shore access track (Table 5.8 and 5.4.31), in addition to the access road from the construction site to the A857. The shore track will be used for vehicles in pipe laying – either from the common pipeline landing area to the compound/or from two separate locations at drilling rigs to the compound.

70. The ES gives no details of on-shore or offshore lighting. Lighting is one of the major considerations in assessing the visual impacts of this proposal. Ideally, an idea of the range of where the land based lighting would be visible from, would assist in assessing the impacts. It is important that CnES ensure that any impacts arising from land based lighting should be minimised. This corresponds with our previous advice given regarding the Siadar Wave energy development.
71. Although there is no specific legislation available to deal with light pollution and obtrusive lighting is presently not classed as a statutory nuisance in Scotland, PAN 51, planning, environmental protection and regulation does recognise that "... *light pollution is increasingly being recognised as a source of nuisance...*". Reference should also be made to the Scottish Executives Guidance Note Controlling Light Pollution and Reducing Lighting Energy Consumption², particularly paragraph 25 where a basic lighting policy statement is outlined.

Cumulative impacts

72. The Siadar Wave Energy project (Voith Hydro WaveGen 4MW) is a consented project also situated in the Mealabost to Rubha na Caillich LCCA. It forms a breakwater structure 250m long containing 70 turbines lying 0.35km offshore and within 1.5km of the southern point of the Oyster WEC array. We are aware of proposals to increase the Siadar project, but currently our cumulative assessment is based on the existing consented scheme.
73. As stated in the SLVIA, both developments will be intervisible to the south, within Baile an Truiseil and its vicinity and within Siadar.
74. In terms of impact on the Mealabost to Rubha na Caillich LCCA, the majority of the length of this LCCA will change in character, in that views out to sea will include views of either/both of the close-to shore marine renewable developments. There is a coastal path along much of the length of this LCCA, as far as Siadar, where it joins the wider path network. The experience of remoteness along this section of coast will diminish.

cix Recommendations for Conditions

The table below provides a concise summary of our advice and good practice recommendations to inform consideration of conditions for this proposal.

List of Proposed Conditions

Condition	Reason
<p><u>Construction Method Statement (CMS)</u> A CMS or similar document should be provided to Marine Scotland for agreement with relevant consultees. This should include details of commencement dates, duration and phasing information of key elements of construction.</p> <p>This statement should include measures to</p>	<p>To ensure all environmental issues are taken into account.</p>

² www.scotland.gov.uk/Publications/2007/03/14164512/12

<p>protect the marine environment (e.g. method and diurnal/seasonal timing of pin piling, landfall pipeline location and installation methods including micro-siting and pollution prevention measures, etc) and be cross-referenced with the Environmental Management and Mitigation Plan (EMMP).</p> <p>This statement should be submitted prior to commencement of any works within a timescale to be agreed with Marine Scotland. Updated versions should be provided within real time and agreed and circulated in accordance with agreed procedures with Marine Scotland.</p>	
<p><u>Environmental Management and Mitigation Plan (EMMP)</u></p> <p>An EMMP agreed with Marine Scotland and SNH, detailing all mitigation and monitoring measures during installation, operation, maintenance and decommissioning of devices and associated infrastructure. This should be an iterative document accounting for final details within the CMS (see above).</p> <p>This plan should detail measures (through all phases of the wave array) to prevent adverse impacts to marine mammals, birds, fish and habitats as outlined in Chapter 23 of the ES.</p> <p>The plan should be cross-referenced to the construction methodology document and subsequent versions and vessel management plans as well as recommendations within the ES.</p> <p>The plan should also detail how each and all contractors and sub contractors will be made aware of environmental sensitivities, what requirements they are expected to adhere to, how chains of command will work including shore to vessel communications etc. In addition, we advise on the need for regular updates on construction activity, issues encountered and how these have been addressed.</p> <p>The plan should be submitted within a timescale specified by Marine Scotland in advance of the project construction commencing. It should be agreed by Marine Scotland in consultation with relevant consultees.</p>	<p>To ensure all environmental issues are taken into account and impacts risks minimised, particularly for otters (EPS), marine mammals, basking sharks and birds.</p>
<p><i>The following mitigating conditions should be detailed with the EMMP and cross-</i></p>	

<i>referenced with the CMS as appropriate</i>	
<p><u>Timetabling of works</u> These should take into account any identified mitigation measures for environmental, navigational or other effects.</p>	<p>To minimise disturbance to marine mammals (SACs/EPS), basking sharks and birds (SPAs).</p>
<p><u>Landfall pipelines</u> Details of the location and construction methods for inter-array and landfall pipelines including finalised details of the locations, configuration and method of pipeline installation, i.e. if the pipeline will be installed by horizontal directional drilling or surface laid.</p> <p>Pipelines should be monitored and if they become re-exposed, and, action taken to remedy this.</p>	<p>To safeguard coastal processes in the Siadar area; to ensure all environmental issues are considered in the location and construction of the landfall pipelines. This should include coastal processes, benthic and intertidal habitats, underwater noise and visual impacts.</p>
<p><u>Vessel Management Plan</u> A vessel management plan providing details on numbers and individual vessel details-including whether ducted propellers will be in operation; how vessel management will be coordinated, particularly during construction, but also during operation. Location of working port(s), how often vessels will be required to passage between port(s) and site, and the routes used i.e. creation of high and low disturbance areas.</p> <p>We recommend that during transit and when on site that all personnel must adhere to the Scottish Marine Wildlife Watching Code.</p> <p>We also recommend that this plan is drafted and then finalised in consultation with Marine Scotland and relevant consultees prior to commencement of any construction activity. This plan should be cross-referenced with the EMMP and aim to reduce disturbance impacts to mobile species.</p>	<p>To minimise disturbance to marine mammals, basking sharks and birds.</p>
<p><u>Micro-siting of WEC devices</u> Micro-siting details for individual WEC devices to be provided and agreed between developer, Marine Scotland and SNH.</p>	<p>To minimise impacts on benthic habitats and species across the site.</p>
<p><u>Design Statement</u> A detailed design statement is required to provide guiding principles for the deployment of WECs. This plan should detail:</p> <ol style="list-style-type: none"> i. Layout location for each phase and each WEC location (micro-siting); ii. Lighting requirements for both the onshore and offshore components of the development; 	<p>To ensure visual impacts are fully understood in advance of construction and deployment.</p>

<p>iii. More detailed information on the design and appearance of the onshore buildings.</p>	
<p><u>Wildlife monitoring</u> We recommend completion of collection of 2 year's of baseline survey data for birds, marine mammals and basking sharks.</p> <p>We recommend that the developer considers conducting a focal study to monitor potential impacts, both positive and negative, on birds, marine mammals and basking sharks during each phase of deployment and operation (and maintenance) of the WEC array. Observations should cover the periods when species numbers are highest, informed by 2 year's of baseline data. Such a programme should be agreed in advance with Marine Scotland and SNH.</p> <p>A Breeding Bird Protection Plan is proposed for the onshore component of the development and should be implemented as outlined in the ES.</p> <p>Any monitoring programme should be outlined within the EMMP and agreed in writing with MS and SNH prior to any works commencing.</p>	<p>To monitor the impact of installation, operation and maintenance on birds, marine mammals and basking sharks;</p> <p>To inform future deployments of this technology.</p>
<p><u>Species management plan for otters</u> A species management plan for otters should be outlined and implemented in relation to onshore works.</p>	<p>To minimise impacts on otters (EPS).</p>
<p><u>Post-consent intertidal and benthic surveys</u> Post-consent intertidal surveys are proposed in the ES. These should also include benthic surveys. The timetable and frequency for these surveys should be included in the EMMP and agreed by MS-LOT and SNH.</p>	<p>To validate impact assessments and determine operational impacts on benthic/intertidal habitats.</p>
<p><u>Post-consent coastal processes survey</u> As recommended in paragraph 7.6.56 of the ES, a follow-up survey to investigate the implications on coastal processes and sedimentation should be conducted.</p>	<p>To assess the impacts of the development on coastal processes and sedimentation.</p>
<p><u>Acoustic monitoring</u> We recommend that the developer considers conducting post-installation noise signature characterisation to determine levels of operational noise.</p> <p>The collection of data on noise levels</p>	<p>To validate impact assessments.</p> <p>To inform future deployments of this technology.</p>

<p>generated by different stages of installation is recommended.</p>	
<p><u>Management of Invasive non-native species (INNS)</u> Mitigation outlined in the ES (section 23.3.56) should be included in the EMMP to safeguard against introduction of INNS.</p> <p>Biofouling management practices should be implemented, including the use of anti-fouling and/or foul-release systems and other operational management practices to reduce the development of biofouling.</p>	<p>To minimise the risk of transfer of invasive non-native species to the site.</p>
<p><u>Decommissioning Plan</u> A decommissioning plan will be required for the entire array. We recommend that this is an iterative process and that an initial decommissioning strategy is produced. Timescale for the production, consultation and implementation of a decommissioning plan should be set out as part of any consent.</p> <p>In addition to decommissioning the entire scheme, details of decommissioning / replacing individual WECs should be set out taking into account criteria developed with Marine Scotland on if / when individual turbines should be removed.</p>	<p>To ensure all environmental issues are taken into account in decommissioning of the wave array or individual WECs.</p>
<p><u>Reporting requirement</u> To be provided for all mitigation and monitoring activities, to be delivered to Marine Scotland who will distribute accordingly.</p>	<p>To maximise learning from deployments at tests sites in a timely manner, that they may be used for future impact assessments, appraisals and advice.</p>

We also request that all environmental survey and monitoring information is made publicly available.

As stated in our covering letter we would welcome the opportunity to advise further on the detail of these conditions.

Sutherland AI (Andrew)

From: [REDACTED]@bt.com on behalf of radionetworkprotection@bt.com
Sent: 20 April 2012 09:53
To: Tait A (Adrian) (MARLAB)
Subject: RE: 011/WAVE/APL - 5: Request for comment: One Week Reminder: 19 April 2012

Dear Andrew

BT do not have any comment to make

Thanks

Regards

[REDACTED]
BT Radio Frequency Allocation & Network Protection

Tel 0191 2696372

mobile : [REDACTED]
[REDACTED]@bt.com

Web: <http://operate.intra.bt.com/operate>

From: Adrian.Tait@scotland.gsi.gov.uk [mailto:Adrian.Tait@scotland.gsi.gov.uk]
Sent: 19 April 2012 17:27
To: Aitkenhead,DM,Dale,ABDA12 R
Subject: 011/WAVE/APL - 5: Request for comment: One Week Reminder: 19 April 2012

Dear [REDACTED]

ELECTRICITY ACT 1989

*The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000
The Electricity (Applications for Consent) Regulations 1990*

MARINE (SCOTLAND) ACT 2010

The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended)

**APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND
A MARINE LICENCE UNDER PART 4, SECTION 20 OF THE MARINE (SCOTLAND) ACT
2010 TO CONSTRUCT AND OPERATE WAVE ARRAY, NORTH WEST LEWIS**

Please find attached the consultation letter for the above application. I would be grateful for any comments you have by **26th April 2012**. If you are unable to meet this deadline, please contact us to arrange an extension to the consultation period. If you have no comments to make please submit a "nil return" response.

You should already have received a copy Environmental Statement.

Many thanks,

Adrian Tait

Adrian Tait

Marine Renewables Licensing Casework Manager
Marine Scotland – Marine Planning & Policy Division

01/06/2012

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Dh'fhaodadh gum bi teachdaireachd sam bith bho Riaghaltas na h-Alba air a chlàradh neo air a sgrùdadh airson dearbhadh gu bheil an siostam ag obair gu h-èifeachdach neo airson adhbhar laghail eile. Dh'fhaodadh nach eil beachdan anns a' phost-d seo co-ionann ri beachdan Riaghaltas na h-Alba.

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Internet: www.british-shipping.org

Marine Scotland
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

By email: ms.marinelicensing@scotland.gsi.gov.uk

14 May 2012

Dear Sir/Madam

RE: 011/WAVE/APL-5 – APPLICATION TO CONSTRUCT AND OPERATE WAVE ARRAY, NORTH WEST LEWIS

The Chamber of Shipping welcomes the opportunity to review and comment on Lewis Wave Power Limited's application to construct and operate a wave array off the North West coast of the Isle of Lewis. Having reviewed the environmental statement, in particular Chapter 15 "Shipping and navigation" and Appendix 15.1 "Navigational safety risk assessment", I can confirm that the Chamber has no significant concerns regarding the project.

We are satisfied that the proposed mitigation measures, in particular the lighting and marking measures to be agreed with the Northern Lighthouse Board and the proposed emergency response plan, will reduce navigational risk to tolerable levels. Given the relatively low levels of commercial shipping activity observed in the region and the distance from the Laden Tankers Deepwater Route, we have no concerns over potential route deviation.

If you have any questions regarding the Chamber's comments, please do not hesitate to contact me.

Yours faithfully,

Richard Nevinson
Policy Assistant, Safety & Environment
The Chamber of Shipping



Promoting our maritime future

The Chamber of Shipping
Limited
Registered office as
above
Registered in England no.
2107383

Sutherland AI (Andrew)

From: Gethin, Toby [Toby.Gethin@thecrownestate.co.uk]
Sent: 23 April 2012 09:04
To: Tait A (Adrian) (MARLAB)
Subject: RE: 011/WAVE/APL - 5: Request for comment: One Week Reminder: 19 April 2012

Hi Adrian

Thank you for consulting the Crown Estate on this application.

We have no comments to make.

Regards,

Toby

Toby Gethin (MRTPI)
Consents adviser (wave & tidal)



The Crown Estate
16 New Burlington Place
London W1S 2HX
Tel: 020 7851 5216
Fax: 020 7851 5125
Mob: 07702 719921
Email: Toby.Gethin@thecrownestate.co.uk
www.thecrownestate.co.uk
Please think - do you need to print this email?

From: Adrian.Tait@scotland.gsi.gov.uk [mailto:Adrian.Tait@scotland.gsi.gov.uk]
Sent: Friday, April 20, 2012 6:15 PM
To: Gethin, Toby
Subject: 011/WAVE/APL - 5: Request for comment: One Week Reminder: 19 April 2012

Dear Mr Gethin,

ELECTRICITY ACT 1989

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000
The Electricity (Applications for Consent) Regulations 1990

MARINE (SCOTLAND) ACT 2010

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Please find attached the consultation letter for the above application. I would be grateful for any comments you have by **26th April 2012**. If you are unable to meet this deadline, please contact us

01/06/2012

to arrange an extension to the consultation period. If you have no comments to make please submit a "nil return" response.

You should already have received a copy Environmental Statement.

Many thanks,

Adrian Tait

Adrian Tait

Marine Renewables Licensing Casework Manager
Marine Scotland – Marine Planning & Policy Division

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Dh'fhaodadh gum bi teachdaireachd sam bith bho Riaghaltas na h-Alba air a chlàradh neo air a sgrùdadh airson dearbhadh gu bheil an siostam ag obair gu h-èifeachdach neo airson adhbhar laghail eile. Dh'fhaodadh nach eil beachdan anns a' phost-d seo co-ionann ri beachdan Riaghaltas na h-Alba.

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Sutherland AI (Andrew)

From: [REDACTED] [REDACTED]
[REDACTED]@defence.gsi.gov.uk]
Sent: 25 April 2012 14:51
To: MS Marine Licensing
Subject: 20120425-(OSOD/034/2012) Wave Array, North Lewis-U
Follow Up Flag: Follow up
Flag Status: Blue

Dear Sir/Madam,

Thank you for consulting the Ministry of Defence (MOD) on the proposal to locate the North Lewis Wave Array, your ref. 011/WAVE/APL-5.

I can confirm we have no objections.

[REDACTED]
Safeguarding Assistant

Defence Infrastructure Organisation
Kingston Road, Sutton Coldfield, West Midlands, B75 7RL

■ MOD telephone: 94421 2259 | [REDACTED] | Fax: 0121 311 2218
Email: [REDACTED] | Website: [DIO Safeguarding](#)

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The Scottish Government
Marine Scotland
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

Hazardous Installations
Directorate

Mrs Jo Walker

Chemical Industries
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Jo.walker@hse.gsi.gov.uk

<http://www.hse.gov.uk/>

Head of Unit
Ms. Anne Wilson

Date: 3 April 2012

Our Reference: JW/EIA/North West Lewis/4.2.1.1701.

Your Reference: 011/WAVE/APL – 5

Dear Sir/Madam,

**ENVIRONMENTAL ASSESSMENT FOR PROPOSED CONSTRUCTION AND OPERATION OF
WAVE ARRAY NORTH WEST LEWIS**

Thank you for your letter of 19th March enclosing a copy of the environmental statement for the proposed development by Lewis Wave Power Limited at North West Lewis.

Environmental Impact Assessments are concerned with projects which are likely to have significant effects on the environment. HSE's principal concerns are the health and safety of people affected by work activities. HSE has no comments on this environmental statement.

Yours faithfully,



pp Mrs Jo Walker
HM Principal Inspector of Health & Safety



Western Isles Fishermens Association

Craigard, Newvalley, Isle of Lewis, HS2 0DW

Telephone / Facsimile 01851 702385

E-Mail [REDACTED]@craigard.co.uk

Mobile [REDACTED]

25 April 2012

Mr Andrew Sutherland
Marine Laboratory
375 Victoria Road
ABERDEEN AB11 9DB

Dear Mr Sutherland

YOUR REFERENCE 011/WAVE/APL - 5

As you maybe aware my contract as Coordinator of the Outer Hebrides Inshore Fisheries Group ended on 31 March 2012 and this response is being made on behalf of the Western Isles Fishermen's Association (WIFA) whose members are the only vessels fishing within the proposed development area. However, as the Outer Hebrides Inshore Fisheries Group (OHIFG) were given a presentation by Marc Murray, Senior Development Manager, Aquamarine Marine Power, on 27 March 2012, this response reflects the views of other industry representatives from outwith the Outer Hebrides who are represented on the Outer Hebrides Fisheries Group.

Firstly, we must stress that Section 16 Commercial Fisheries is seriously flawed and does not give an accurate reflection of the fishing importance or displacement issues that would affect the fishing fleet should the development proceed.

Secondly, Aquamarine Power had indicated at earlier meetings with the fishing industry that any cabling between the offshore site and the shore would be fully trenched and would not present any new hazards, allowing fishing with pots to continue uninterrupted between any offshore development and the shore.

At both meetings with the OHIFG on 27 March and WIFA on 21 April industry were notified that possibly up to 8 cables lying on the seabed might be running between the offshore site and the shore. Clearly, this significant material change to that discussed earlier is totally unacceptable to the fishing industry, as cables lying on the seabed would present the potential for snagging gear for under 10 metre vessels hauling creels within the area.

The fishing industry insist that all cabling between the offshore site and the shore must be trenched or else covered in rock armour to prevent the possibility of gear snagging. We would object to the development proceeding until such a guarantee was confirmed in writing.

The identified search area covers one of the most productive lobster ground areas on the West coast of Lewis, with the value of landings from that area far in excess of those quoted within the fishing report. Local fishermen state that the observation report between September 2010 and September 2011 is wrong and they can provide accurate information showing their activity in the area. My personal experience of having fished that area resulted in landings of £26,000 for one month's fishing with 720 pots in autumn 1988 from the search area. Lobsters are as plentiful in the area now as then, furthermore, shellfish prices have also increased therefore a more realistic and balanced approach should be undertaken to identify the economic importance of this area.

The economic importance of the search area at local level is extremely high, with 10 fishermen dependent on the area for part of their livelihood. Those fishermen all live in fragile areas where alternative employment opportunities do not exist. Exclusion from the search area would have a devastating impact on the future viability of the vessels that fish in that area. The fishing industry cannot accept the reference in the report that the development site do not support locally important fishing grounds, this is simply not true.

Fishing activity within the ICES square 45E3 varies significantly, with lobster only available in very limited sections of that square and it's simply misleading to imply that the fishing effort within the search area can be simply displaced to other areas outwith the search area. The search area consists of the best lobster grounds to the West of Lewis and adjacent areas will simply not return the same catch per unit effort to vessels, so vessels earnings will be reduced. Furthermore, displacement of effort will impact on other vessels as their traditional grounds will have additional pots and will result in reduced catches for those vessels.

Adequate gaps will have to be identified at various stages within the project to allow access for smaller fishing vessels, between the devices, to allow steaming from fishing grounds close inshore to more offshore grounds, to prevent vessels having to steam long distances around either end of the development.

In conclusion, the fishing industry accept that they will lose access to some valuable fishing grounds, however, they will be able to work alongside the proposed development provided additional safeguards of trenching cables between the offshore site and the shore are guaranteed. This will enable fishing vessels to continue their fishing operations in safety on their traditional fishing grounds in the full knowledge that there will be no underwater snagging of gear on cables. Failure to provide such guarantees will result in the fishing industry having no option but to object to the proposed development.



Duncan MacInnes
Secretary

Sutherland AI (Andrew)

From: [REDACTED]@jrc.co.uk]
Sent: 23 March 2012 14:38
To: MS Marine Licensing
Subject: North West Lewis -- Wave Array (Ref: 011/WAVE/APL-5)

Follow Up Flag: Follow up
Flag Status: Blue

Dear Sir/Madam,

Planning Ref: 011/WAVE/APL-5

Name/Location: North West Lewis (Siadar)

Turbine at NGR: n/a

Hub Height: n/a Rotor Radius: n/a

Thank you for consulting the Joint Radio Company.

We have no observations to offer in respect of this development.

Regards

[REDACTED]
Wind Farm Team

The Joint Radio Company Limited
Dean Bradley House,
52 Horseferry Road,
LONDON SW1P 2AF
United Kingdom

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TEL: +44 20 7706 5199
[REDACTED]

[REDACTED]@jrc.co.uk>

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Maritime and Coastguard Agency

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SO15 1EG

Andrew Sutherland
Licensing Operations Team
Marine Scotland

Tel: +44 (0)23 8032 9448
Fax: +44 (0)23 8032 9204
E-mail: nicholas.salter@mcga.gov.uk

Your ref: **011/WAVE/APL-5**
Our ref: **MNA 053/008/0028**

27 April 2012

Dear Andrew

SECTION 36 APPLICATION FOR THE NORTH WEST LEWIS WAVE ARRAY

Thank you for your letter dated 19th March 2012. We have now had an opportunity to review the Environmental Statement, provided by Lewis Wave Power Ltd for the proposed West Coast of Lewis Wave Array project, and would comment as follows:

The Environmental Statement and embedded NRA has addressed the key issues identified by MCA in the response letter provided on 20th June 2011.

As expected the traffic within the area is low, and the risk mitigation measures take due cognisance of this. The ES has addressed the MEHRAS and adequately quantified the cumulative impacts within the area.

Navigational marking for array devices should be referred to the Northern Lighthouse Board, and the UK Hydrographic Office

Particular consideration will need to be given to the provision of SAR resources and Emergency Response & Co-operation Plans (ERCOP) will need to be in place prior to construction commencing. The ES section 15.5.25/26 makes reference to MCA resources, which is inaccurate, the developer will be expected to have accurate response plans embedded within the ERCoP

The following consent conditions will apply:

1. A copy of this consent must be given to each contractor appointed to carry out part or all of 'the works' in order that they are clear about the extent of 'the works' for which consent has been given and the conditions that are attached to the consent.
2. The Consent Holder should ensure appropriate steps are taken to minimise damage to the beach/foreshore/river bank by the works.
3. The Consent Holder should ensure that any equipment, temporary works and/or debris associated with the works are removed from the foreshore upon completion of the works.

radio network, in respect of the proposed works. Agreement by the developers to pay any such charges should, ideally, be a condition of the consent if they are likely to be used.

Yours sincerely,

Navigation Safety Branch

Sutherland AI (Andrew)

From: [REDACTED]@nats.co.uk] on behalf of NERL Safeguarding
[NERLSafeguarding@nats.co.uk]
Sent: 04 May 2012 15:46
To: Sutherland AI (Andrew)
Subject: RE: 011/WAVE/APL - 5: One Week After Request For ES Comments Lewis: 04 May 2012

The proposed development has been examined from a technical safeguarding aspect and does not conflict with our safeguarding criteria. Accordingly, NATS (En Route) Limited has no safeguarding objections to this proposal.

Please be aware that this response applies specifically to the above consultation based on the information supplied at the time of this application. If any changes are proposed to the information supplied to NERL in regard to this application (including the installation of wind turbines) which become the basis of a full, revised, amended or further application for approval, then as a statutory consultee NERL requires that it be further consulted on any such changes prior to any planning permission or any consent being granted.

Yours faithfully,

[REDACTED]
Technical Administrator
for & on Behalf of NATS (En Route) Ltd

E: [REDACTED]@nats.co.uk

4000 Parkway, Whiteley, Fareham, Hants PO15 7FL
www.nats.co.uk

From: [REDACTED] On Behalf Of NERL Safeguarding
Sent: 04 May 2012 10:37
To: [REDACTED]
Subject: FW: 011/WAVE/APL - 5: One Week After Request For ES Comments Lewis: 04 May 2012

From: Andrew.Sutherland@scotland.gsi.gov.uk [mailto:Andrew.Sutherland@scotland.gsi.gov.uk] On Behalf Of MS.MarineLicensing@scotland.gsi.gov.uk
Sent: 04 May 2012 10:25
To: NERL Safeguarding
Subject: 011/WAVE/APL - 5: One Week After Request For ES Comments Lewis: 04 May 2012

Dear Sir / Madam,

ELECTRICITY ACT 1989

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000

The Electricity (Applications for Consent) Regulations 1990

MARINE (SCOTLAND) ACT 2010

The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended)

APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND A MARINE

01/06/2012

LICENCE UNDER PART 4, SECTION 20 OF THE MARINE (SCOTLAND) ACT 2010 TO CONSTRUCT AND OPERATE WAVE ARRAY, NORTH WEST LEWIS

The deadline for providing comments on the proposed works detailed above was **26th May 2012**. We received an email from yourselves with a different reference which is likely to have been as a result of an error on our part (see attached email). I would be grateful if you could confirm if this email (also attached) should be considered as your response to this consultation.

Otherwise, as the deadline has now passed please contact us immediately to arrange an extension to the consultation period if you wish to provide comments. If you have no comments to make please submit a "nil return" response.

You should already have received a copy of the Environmental Statement.

Yours sincerely,

Andrew Sutherland

Andrew Sutherland

Marine Renewables Licensing Advisor

Marine Scotland – Marine Planning & Policy Division

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Web: <http://www.scotland.gov.uk/marinescotland>

<http://www.scotland.gov.uk/topics/marine/licensing/marine>

<http://www.scotland.gov.uk/topics/marine/science/msinteractive>

<<011/WAVE/APL - 5: Request for comment: One Week Reminder: 19 April 2012>> <<Your Reference: 018/OW/AOWFL - 9 (Our Ref: SG3162)>>

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Northern Lighthouse Board

84 George Street
Edinburgh EH2 3DA

Switchboard: 0131 473 3100

Fax: 0131 220 2093

Website: www.nlb.org.uk

Email: enquiries@nlb.org.uk



CAPTAIN PHILLIP DAY
DIRECTOR OF MARINE OPERATIONS

Your Ref: 011/WAVE/APL - 5

Our Ref: SD/OPS/CPA/07_08_074

Marine Scotland – Licensing Operations Team
Scottish Government
Marine Laboratory
PO Box 100
375 Victoria Road
Aberdeen
AB11 9DB

04 April 2012

FAO: Andrew Sutherland

Dear Andrew

APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND A MARINE LICENCE UNDER PART 4, SECTION 20 OF THE MARINE (SCOTLAND) ACT 2010 TO CONSTRUCT AND OPERATE WAVE ARRAY, NORTH WEST LEWIS

Thank you for your correspondence dated 19 March 2011 regarding the application submitted by **Lewis Wave Power Ltd** for a Marine Licence to construct and operate a wave array at Staca Mhic Cubhaig, North West Lewis.

The site area shall be marked using Marker Boards onshore adjacent to the most Northerly and Southerly extremities of the site, NLB should be consulted regarding these locations. The Marker Boards shall be diamond shaped with a width of 1.5 metres and a length of 2.5 metres, painted yellow with the inscription 'Wave Energy Site' painted horizontally in black. The structures shall be mounted at least 2 metres above ground level and be clearly visible from seaward. A yellow light, flashing once every 5 seconds (Fl Y 5s), with a range of 2nm should be mounted at the centre of the diamond.

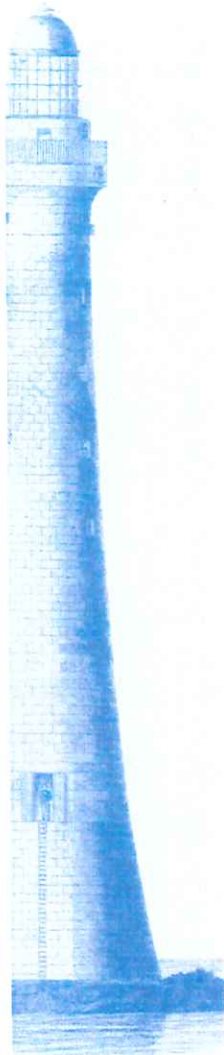
The statutory sanction of the Northern Lighthouse Board will be required to display such navigation lights. Application forms can be found at www.nlb.org.uk

We recommend that the upper section of each device be painted yellow to ensure daymark conspicuity as per International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) recommendation O-139.

The deviceS should be actively monitored, and a contingency plan developed to respond to any reported catastrophic failure events. This should include the transmission of local Radio Navigation Warnings.

For the safety of all

Certified to: ISO 9001:2000 · The International Safety Management Code (ISM) · OHSAS 18001



2

04 April 2012

Marine Scotland – Licensing Ops Team

During the device(s) preparation, installation, operation/maintenance and decommissioning phases we would require that adequate notice is given to the mariner in consultation with the Western Isles Harbour Master. We would recommend that such Notices to Mariners or Local Radio Navigation Warnings clearly state the nature and duration of these works.

The Hydrographic Office should be informed of the device(s) location and the onshore cable marker boards in order that Admiralty Chart 2720 can be updated to give information of the installation.

Yours sincerely

A large black rectangular redaction box covering the signature area of the letter.

Philip Day
Director of Marine Operations

Sutherland AI (Andrew)

From: David Muir [d.muir@cne-siar.gov.uk]
Sent: 26 April 2012 15:13
To: MS Marine Licensing
Subject: Application for Consent to Construct and Operate Wave Array, North West Lewis - Response from Coast Hebrides

Follow Up Flag: Follow up

Flag Status: Blue

Dear Mr Sutherland,

Thank you for the opportunity to comment on the above application. Documents related to the application have been circulated to the members of the Coast Hebrides Forum and while many of the individual member organisations will make their own response, as Coast Hebrides has only received responses which indicated there are no concerns with the proposals, we shall not make a formal response at this time.

Kind Regards,

David Muir

David Muir
Integrated Coastal Zone Management Coordinator
Technical Services
Comhairle nan Eilean Siar
Balivanich
Isle of Benbecula HS7 5LA
Scotland
t. +44 (0)1870 602425 ext. 863
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25 April 2012

Adrian Tait
Marine Renewables Licensing Casework Manager
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Tel: +44 (0)131 317 7388
Fax: +44 (0)131 317 8566
Email: admin@ryascotland.org.uk
Web: www.ryascotland.org.uk

Dear Mr Tait,

011/WAVE/APL – 5: WAVE ARRAY, NORTH WEST LEWIS

The Royal Yachting Association Scotland (RYA Scotland) is established to promote the sport of sailing and power boating in Scotland and is recognised by **sportscotland** as the governing body for all forms of recreational and competitive boating in Scotland. RYA Scotland represents dinghy and yacht racing, motor and sail cruising, RIBs and sports boats, windsurfing, inland cruising and personal watercraft and for matters that have been devolved to Scotland is recognised by the Scottish Government, the Crown Estate, Local Authorities and other non-governmental organisations in Scotland as being the primary consultative body for the activities it represents. RYA Scotland was a founding member of the Scottish Boating Alliance.

RYA Scotland acts as the Royal Yachting Association (RYA) Council for Scotland and the two organisations work closely together on all aspects of their activities. The RYA is the UK and internationally recognised governing body for all forms of recreational and competitive boating in the UK. The RYA currently has more than 100,000 personal and family members across the UK, the majority of whom go afloat for purely recreational non-competitive pleasure on coastal and inland waters. There are an estimated further 500,000 boat owners nationally who are members of over 1,500 RYA affiliated clubs and class associations. The RYA sets and maintains a recognised standard for recreational boat training through a network of over 2,200 RYA Recognised Training Centres in 20 countries. On average, approximately 160,000 people a year complete RYA training courses.

Over 150 RYA affiliated clubs, 120 RYA Recognised Training Centres, 1,900 RYA qualified instructors and over 5,500 RYA individual and family members are based in Scotland.

The RYA and the British Marine Federation have also developed The Green Blue programme to minimise the environmental impact of recreational boating; a programme that is directly supported in Scotland.

I have read the Environmental Statement for the above development and, on behalf of RYA Scotland, confirm that we do not object to this proposal. We welcome the statement that there are currently no plans for safety or exclusion zones while the devices are in operation. The view of RYA is that education is a much more effective mitigation measure than regulations. By day when visibility is good the wave farm is unlikely to be a significant hazard. In strong onshore winds it is unlikely to be a greater hazard than the shore itself. However, we do have some concerns that I mention below. The ES was written before the RYA position paper on offshore wave farms was published. Please let me know if you do not have a copy.

The NRA correctly mentions that the RYA UK Coastal Atlas of Recreational Boating shows only a single lightly used route near the array site. Please note that the marked routes are best estimates of typical routes taken and are not recommendations. In onshore winds, recreational craft will keep well away from this dangerous lee shore. However, in strong offshore winds craft may be much closer inshore. Moreover a vessel might inadvertently stray into the array in conditions of poor visibility (night time or fog) either because of a navigational error using chart and compass or where electronic navigation aids were not functioning, e.g. due to jamming of a GPS signal or loss of an aerial.


I am disappointed that the marking and lighting has not yet been agreed with NLB and MCA. IALA O-139 provides some guidance but we feel that while lights at each end of the array may be adequate for large vessels with a bridge well above sea level, for small recreational craft a distance of 3 km is a rather large gap between lights. Lighting must also take into account the obscuring of lights by swell or waves, a particular hazard for small craft. We agree with the proposal to colour the devices. However, in normal conditions the devices will presumably appear like a reef with breaking water clearly marking their position to an alert sailor and in conditions of adverse visibility the colour will be irrelevant. Having an additional two fixed lights onshore is a useful suggestion. These could possibly be sectored.

Information about the location of the array should appear in the Clyde Cruising Club Sailing Directions and Anchorages – Part 4 Outer Hebrides as this is a document that is used by most recreational sailors using these waters. This could recommend, for example, that vessels remain in water deeper than 20 metres in the vicinity of the array.

Section 15.6.29 considers that collision with a device that has broken free is unlikely to pose a risk to vessels. This may be true for fishing vessels but is unlikely to be true for small recreational craft with a GRP hull, particularly if damage is caused to the rudder or propeller.

In 15.3.6 it is stated that the whole area from the devices inshore should be a no anchoring zone. If the devices act to calm the seas in their lee, and I do not know whether this is the case, then anchoring inshore of them in strong onshore winds may be a sensible strategy in case of force majeure. This would be less appropriate if the pipelines were on the surface rather than being directionally drilled. The anchor penetration depth for recreational craft is only about 20 cm.

Yours sincerely,

A large black rectangular redaction box covering the signature of the sender.
RYA Scotland Planning and Environment Officer

1st May 2012

Andrew Sutherland
Marine Renewables Licensing Advisor
Marine Scotland – Marine Planning & Policy Division
Scottish Government, Marine Laboratory
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Dear Andrew

011/WAVE/APL - 5: RYA Lighting Concerns APL Lewis

Thank you for sending the MCA and NLB comments to RYA Scotland. I have discussed them with staff at RYA Hamble and with recreational sailors familiar with these waters. We note that a big swell can be encountered on the west side of Lewis so marks in the sea could be difficult to spot, particularly as the eye of the helmsman of a recreational boat is only about two metres above the level of the sea. We therefore consider the NLB's proposal to mark the site using Marker Boards onshore adjacent to the most Northerly and Southerly extremities of the site to be a useful and constructive suggestion. We would like NLB to consider whether these lights might be sectored and whether the range is adequate.

The MCA response noted the importance of informing local commercial boats. In the case of recreational craft, however, any problems are likely to be with visiting boats. Thus, information about the location of the array should appear in UKHO Notices to Mariners and must be published on paper and electronic navigational charts. As mentioned in my earlier letter, the most effective mitigation measure is likely to be to insert into the relevant pilots and sailing directions that vessels should keep in water deeper than 25 metres (I originally suggested 20 m) when passing along this coast.

A 'deploy and monitor' strategy might be a useful way of identifying any problems with marking and lighting so that lessons can be learned and applied to other sites.

Yours sincerely,



Dr G Russell FRMetS MIEEM
RYA Scotland Planning and Environment Officer



nature's voice

RSPB SCOTLAND

Marine Scotland
Licensing Operations
PO Box 101
375 Victoria Road
Aberdeen
AB11 9DB

3rd May 2012

Dear Sirs

LEWIS WAVE POWER LIMITED (LWPL): 40MW LEWIS WAVE ARRAY PROJECT

Applications under Section 36 Electricity Act (1989) and Marine Scotland Act 2010

Thank you for consulting RSPB Scotland over these applications. This response relates to offshore components of the proposed development and we will respond separately to the Comhairle nan Eilean Siar on the application for onshore components.

These applications have been made on the basis of a submitted ES, which only reports on 13 months' ornithological survey work (to Sep 2011), although it is made clear that 24 months of baseline work are to be completed. In their advice of 23 January 2012 on Year 1 Bird Survey Results and Requirements for Habitats Regulations Appraisal, SNH made a recommendation, which we fully support, that a full two years' data should be submitted to provide a more robust and informed data gathering process. In addition, a report by Natural Research Ltd and Royal Haskoning to SNH and Marine Scotland¹ (although not formal guidance by either statutory body), endorsed by Scottish Environment Link² of which RSPB Scotland is a member, stated:

"Surveys of the distribution and abundance of marine birds on the sea to inform wet renewables projects will normally consist of a series of repeated survey visits extending over two or more years for site characterisation surveys, and over longer for monitoring purposes."

The reasoning behind the requirement for more than a single year's survey is that bird numbers

¹ <http://www.snh.gov.uk/docs/B925810.pdf>

² <http://www.scotlink.org/files/policy/ConsultationResponses/LINKRespSNHGuidSuveryMonitor.pdf>

North Scotland
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and distribution on any area of sea may vary markedly from year to year: two years of survey (provided the results are fairly consistent) would provide some reassurance that the observed pattern is typical. RSPB Scotland is, therefore, concerned that Marine Scotland is being asked to consent these applications on the basis of only 13 months survey. **RSPB Scotland therefore objects to this application as we cannot be sure that the development will have no serious adverse impacts on bird populations.**

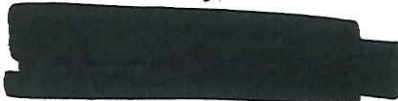
The agreed approach to a Rochdale Envelope allows an assessment to be made based on the potential area of search and the likely footprint of activity within each parcel of potential development. However, we ask that we be further consulted on elements of the proposed development requiring finalisation, as outlined in Para 2.3.1 of the ES, including:

- The method of installing the pipeline connections between the devices and the onshore powerhouse (surface laid or Horizontal Directional Drilling: HDD);
- Depending on the outcome of the pipeline installation method, the number and exact location of the pipelines (for the surface laid method a minimum two and maximum eight; for the HDD option a maximum 36)
- The footprint of the devices and their exact location (subject to micro-siting post consent); and
- The size of the gap fillers under each device.

Any issued consent should be conditional on an agreed programme of bird monitoring pre- and post- construction. This is required both to ensure that impacts of the development are in line with predictions made in support of the application and to inform assessment of future developments of this type. As the technology is new and its environmental impacts have not been tested at the scale of a commercial array of devices, such monitoring is essential.

Fuller commentary on these and other matters is provided in the attached Annex. I would be grateful for further consultation as additional information comes forward and please do not hesitate to contact me should you have any queries concerning this response.

Yours faithfully,



Stuart Benn
Conservation Manager

Cc: Tracey Begg, SNH
Planning, Comhairle nan Eilean Siar

Annex

Comments by RSPB Scotland on Lewis Wave Power Ltd (LWPL) application to install and operate a wave farm off Lewis.

Prematurity of submission and Special Protection Area (SPA) interest

RSPB Scotland considers that it would be inappropriate for Marine Scotland to consent this application based on current information. In particular, this is because it is based on only 13 months of bird survey, contrary to accepted best practice. Hence it is not possible to conclude, with the necessary level of certainty, that there will be no adverse impact on site integrity of the nearby Lewis Peatlands SPA, one of whose qualifying features is its breeding population of red-throated divers which may feed in the proposal area. RSPB therefore **objects**, pending consideration of two full years of submitted bird data and assessment of impacts.

Cumulative Impact Assessment (CIA)

A cumulative impact assessment, necessary under the Electricity Works (Environmental Impact Assessment) (Scotland) (EIA) Regulations 2000 and the Marine Works (EIA) Regulations 2007, will have to include other developments, whether built, consented but not yet constructed, or within the planning system and with sufficient detail to enable assessment

We concur with the view, expressed in 2.13.2 of the ES, that a CIA should take into account – at least in terms of ornithology - the Stornoway and Eisgein wind farms, Pelamis Wave Power's proposal off the west coast of Great Bernera and Voith Hydro WaveGen's consented 4MW wave development at Siadar. We understand that a revised application for a wave energy development may be made at the latter site so, depending on timing, that may also merit inclusion in CIA.

In RSPB Scotland's response to the Scoping Consultation, we suggested that data be sought from other wave energy developments. It is disappointing, therefore, that data gathered in support of the consented Siadar development and the Oyster 1 and 2 deployments at EMEC are not available.

Comments on bird data

RSPB Scotland considers that the ornithological data collected in support of this application are sound, notwithstanding that we have seen data relating only to 13 months, and consider the methods deployed (10.1.19-24) to be appropriate for the proposal. We welcome the inclusion of data from the Labost area, to the south-west of the site which, whilst not directly applicable to the current submission (though we understand it was in the initial area of search) provide a useful comparison. We suggest that data collation from this site be continued if future extensions within the search area are to be proposed at a later date.

As we consider that bird survey information obtained over a single year provide a wholly inadequate basis for assessment of likely impacts of the proposed development, we offer no comments at this stage on the veracity of submitted predictions.

End

Sutherland AI (Andrew)

From: [REDACTED]@classmail.co.uk]
Sent: 29 April 2012 09:16
To: Tait A (Adrian) (MARLAB)
Subject: Re: 011/WAVE/APL - 5: Request for comment: One Week Reminder: 19 April 2012

Dear Adrian

I hope that this might suffice as comments from the Scottish Canoe Association. I have been away on holiday for the past 10 days.

That part of the Lewis coast is traversed by sea kayakers, not that frequently, but it is part of either an advanced west coast trip on Lewis, or a round-Lewis expedition.

The only comment to make is that sea kayakers would wish to normally hug the coast, and keep inshore. If works, or cables coming onshore prevent this, there could be a safety issue.

We could comment at a later stage about any navigation warning signs, or safety protocols regards

[REDACTED]
 SCA Board Director (Access and Environment)

From: Adrian.Tait@scotland.gsi.gov.uk
Sent: Thursday, April 19, 2012 5:59 PM
To: [REDACTED]@classmail.co.uk
Subject: 011/WAVE/APL - 5: Request for comment: One Week Reminder: 19 April 2012

Dear [REDACTED]

ELECTRICITY ACT 1989

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000
The Electricity (Applications for Consent) Regulations 1990

MARINE (SCOTLAND) ACT 2010

The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended)

**APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND
 A MARINE LICENCE UNDER PART 4, SECTION 20 OF THE MARINE (SCOTLAND) ACT
 2010 TO CONSTRUCT AND OPERATE WAVE ARRAY, NORTH WEST LEWIS**

Please find attached the consultation letter for the above application. I would be grateful for any comments you have by **26th April 2012**. If you are unable to meet this deadline, please contact us to arrange an extension to the consultation period. If you have no comments to make please submit a "nil return" response.

You should already have received a copy Environmental Statement.

Many thanks,

Adrian Tait

Adrian Tait

Marine Renewables Licensing Casework Manager
Marine Scotland – Marine Planning & Policy Division

Scottish Government | Marine Laboratory, PO Box 101 | 375 Victoria Road | Aberdeen AB11 9DB

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S: + 44 (0) 1224 876544
M: + 44 (0) 7557 848720
F: + 44 (0) 1224 295524

Email: adrian.tait@scotland.gsi.gov.uk
ms.marinelicensing@scotland.gsi.gov.uk

Web: <http://www.scotland.gov.uk/marinescotland>
<http://www.scotland.gov.uk/topics/marine/licensing/marine>

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Dh'fhaodadh gum bi teachdaireachd sam bith bho Riaghaltas na h-Alba air a chlàradh neo air a sgrùdadh airson dearbhadh gu bheil an siostam ag obair gu h-èifeachdach neo airson adhbhar laghail eile. Dh'fhaodadh nach eil beachdan anns a' phost-d seo co-ionann ri beachdan Riaghaltas na h-Alba.

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Sutherland AI (Andrew)

From: [REDACTED]@sff.co.uk]
Sent: 23 April 2012 11:51
To: Tait A (Adrian) (MARLAB); [REDACTED]
Cc: [REDACTED]
Subject: RE: 011/WAVE/APL - 5: Request for comment: One Week Reminder: 19 April 2012

Adrian,
Given that this is in the shallow inshore water round Lewis, the Western Isles association are the most appropriate to comment on this proposal,
Thanks, [REDACTED]

From: Adrian.Tait@scotland.gsi.gov.uk [mailto:Adrian.Tait@scotland.gsi.gov.uk]
Sent: 19 April 2012 18:02
To: [REDACTED]
Subject: 011/WAVE/APL - 5: Request for comment: One Week Reminder: 19 April 2012

Dear Sirs,

ELECTRICITY ACT 1989

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000
The Electricity (Applications for Consent) Regulations 1990

MARINE (SCOTLAND) ACT 2010

The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended)

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You should already have received a copy Environmental Statement.

Many thanks,

Adrian Tait

Adrian Tait

Marine Renewables Licensing Casework Manager
Marine Scotland – Marine Planning & Policy Division

Scottish Government | Marine Laboratory, PO Box 101 | 375 Victoria Road | Aberdeen AB11 9DB

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Email: adrian.tait@scotland.gsi.gov.uk
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01/06/2012

Web: <http://www.scotland.gov.uk/marinescotland>
<http://www.scotland.gov.uk/topics/marine/licensing/marine>

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Dh'fhaodadh gum bi teachdaireachd sam bith bho Riaghaltas na h-Alba air a chlàradh neo air a sgrùdadh airson dearbhadh gu bheil an siostam ag obair gu h-èifeachdach neo airson adhbhar laghail eile. Dh'fhaodadh nach eil beachdan anns a' phost-d seo co-ionann ri beachdan Riaghaltas na h-Alba.

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Andrew Sutherland
Marine Licensing
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB



**Scottish
Wildlife
Trust**

Lewis Wave Power Limited - 40MW Oyster Wave Array North West Coast, Isle of Lewis

Dear Mr Sutherland,

The Scottish Wildlife Trust is pleased to be able to comment on the application by Lewis Wave Power Ltd. for a Marine Licence to construct and operate a wave array off the North West coast of the Isle of Lewis.


It is widely acknowledged that renewable energy production will play a key role in reducing Scotland's carbon emissions, helping to reduce climate change impacts on biodiversity. The Scottish Wildlife Trust supports the development and deployment of renewables where they are shown to be environmentally sustainable, *i.e.* where any localised, regional and wider impacts on ecosystem health are shown not to be significant and/or irreversible.

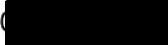
We believe that baseline monitoring to inform the consenting process for wave or tidal arrays should be conducted for a minimum of two years for mobile species. In many cases two years will not enable a full consideration of annual variations in abundance. We note that the ES has been submitted prior to the completion of baseline monitoring, which SNH have advised should continue to September 2012. We would therefore expect that consent, if provided, would be conditional on the completion and appraisal of the second year of baseline monitoring programme. We would also expect an addendum to the ES to be produced and circulated to allow final assessment of the scheme.

We believe that the uncertainty of the impacts of a full array and the non-availability of data from neighbouring proposals (Pelamis, near Loch Roag and Voith Hydro, river Saidar) are severely limiting factors in any assessment of the cumulative effects as required by the EIA Regulations. It is disappointing that across the marine renewables sector, research, baseline data collection and monitoring are not yet accompanied by effective and accurate communication of results. We would like to see improved collaboration between developers on environmental data collection for wave and tidal devices. Improved management, sharing and access to monitoring data is essential to ensure that cumulative impacts can be predicted and avoided or mitigated, and lessons fed back into adaptive management.

Finally, while we welcome the applicants' commitment to the development of a 'deploy and monitor' strategy in partnership with Marine Scotland and its advisers, we would like to see independent scrutiny of the monitoring programme and a firm commitment to the dissemination of results to inform future decision making.

Yours sincerely,


Policy Officer - Living Seas

T 0131 312 4749 | M 

Sutherland AI (Andrew)

From: [REDACTED]@sas.org.uk]
Sent: 24 April 2012 15:25
To: Tait A (Adrian) (MARLAB); Sutherland AI (Andrew)
Subject: FW: APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND A MARINE LICENCE UNDER PART 4, SECTION 20 OF THE MARINE (SCOTLAND) ACT 2010 TO CONSTRUCT AND OPERATE WAVE ARRAY, NORTH WEST LEWIS

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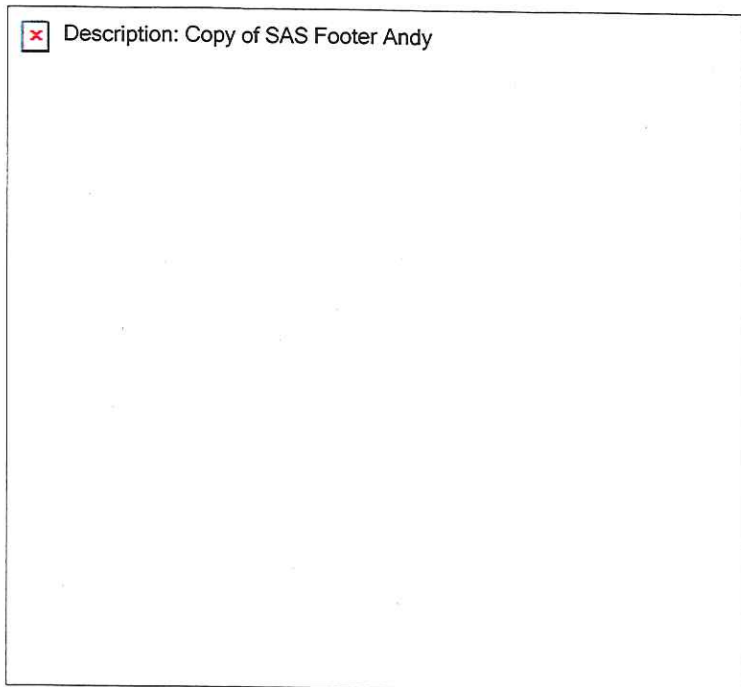
From: [REDACTED] [REDACTED]@sas.org.uk]
Sent: 24 April 2012 15:09
To: 'ms.marinelicensing@scotland.gsl.gov.uk'
Subject: APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND A MARINE LICENCE UNDER PART 4, SECTION 20 OF THE MARINE (SCOTLAND) ACT 2010 TO CONSTRUCT AND OPERATE WAVE ARRAY, NORTH WEST LEWIS

Surfers Against Sewage (SAS) supports onshore and offshore renewable energy developments when they are placed appropriately.

SAS are concerned that the impacts on the surfing resource and recreation have not been adequately investigated. SAS are also concerned that the surfing community, both resident on the Isle and the visiting surfers have not be consulted about the potential impacts.

SAS have published guidance for offshore developers to use in their Environmental Impact Assessment (EIA) process. The SAS guidance can help developers produce a more robust EIA without being more onerous. The guidance clearly defines what surfing waves are and where they can be found. It also details how and why offshore renewables can impact surfing. SAS would urge the developer to use the guidance and consult the established surfing community on the Isle at the earliest possible stage. SAS would also like to be consulted further and would also recommend that the Scottish Surfing Federation and the local surf clubs are also consulted throughout.

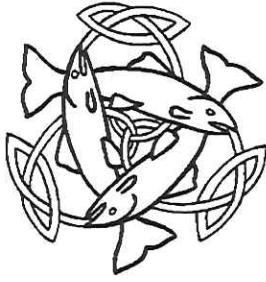
The guidance can be downloaded here: <http://www.sas.org.uk/wp-content/uploads/2012/04/eia-1.pdf>



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Outer Hebrides Fisheries Trust

The Sawmill, Marybank, Stornoway,
Isle of Lewis, HS2 0DD
Tel: 01851 703419
Mob: [REDACTED]
E-mail: [REDACTED]@ohft.org.uk

Dear Mr Sutherland,

Thankyou for your letter regarding the recent application submitted by Lewis Wave Power Limited and their proposal to construct and operate a wave array off the North West coast of the Isle of Lewis. I appreciate the opportunity to comment from the Outer Hebrides Fisheries Trust (OHFT) and on behalf of the statutory consultee Western Isles District Salmon Fisheries Board (WIDSFB).

Offshore renewable developments have the potential to directly and indirectly impact diadromous fish including Atlantic Salmon, Sea Trout and European eel. These species use the coastal areas around Scotland for feeding and migration and are of high economic and conservation value.

Previous survey work carried out by OHFT have identified the presence of wild migratory salmonids and eels in several of the coastal rivers situated along the North West coast of Lewis that subsequently lie in close proximity to probable feeding grounds and migratory routes utilised by Atlantic Salmon (*Salmo salar*) and Sea Trout (*Salmo trutta* L.) around the coastal fringe.

The Borve River (*Abhainn Bhuirgh*) is known to contain spawning Sea Trout and to the South West of the proposed site the Siadar, Barvas and Arnol Rivers (*Abhainn Shiadair Bharabhais* & *Abhainn Arnol* respectively) all support populations of Atlantic Salmon and Sea Trout. To the North East the Dell River (*Abhainn Dhail*) also enters the sea and supports spawning Sea Trout.

OHFTs main concern with Lewis Wave Powers proposal would be the location of the wave array in relation to the mouth of the Rivers Borve and Siadar. Returning Sea Trout could be impeded from returning to the Borve River as the array is directly adjacent to the river outflow. The other rivers mentioned above would be off less concern in terms of impacts to wild migratory fish because of their greater distance from the proposed wave array however it should be taken into consideration that migrating Salmon, Sea Trout and European eels are likely to be present around this stretch of coastline at certain times of the year. Consideration does need to be given to the fact that, aside from the potential impacts to the Borve River, the Siadar River supports Atlantic Salmon in addition to Sea Trout and is also in relatively close proximity to the wave array. Atlantic Salmon and Sea trout are protected under various aspects of legislation, primarily the Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003 (asp 15).

We would ask that construction activities, especially drilling of monopiles into the sea bed should not be carried out between June – mid October as this is when returning Salmonids will be entering coastal waters. The period of May – mid June can also be a sensitive time of

the year as this is when smolts leave their natal rivers and could therefore also be vulnerable to construction associated noise. The effects of works at sea are largely unknown however *Hawkins, 2006* investigated the effects of both percussive and vibratory pile driving on migratory fish and showed that even at relatively large distances away from the area of activity the associated noise can disrupt normal behavioural responses. For these reasons the precautionary approach would be to avoid construction activities at sea between May – mid October.

It should be noted that the current understanding of the behavioural characteristics of post smolt Salmon and Sea Trout are that Salmon tend to head directly out to open water upon leaving their river of origin where as Sea Trout smolts will tend to stay close to the coast for sometime where they engage in feeding activity. This may therefore indicate that native Sea Trout populations may be effected to a greater degree by this development than Salmon post smoltification.

OHFT is pleased with the design of the proposed installation with respect to the absence of underwater power cables as this will preclude any potential effects resulting from electromagnetic fields however it would be useful if we could have more information on noise generation from the array once in operation. Anecdotal evidence suggests that migratory fish may use the noise of breaking waves to orientate themselves with the coastline as a means of locating their natal rivers. Section 7.6.39 of the environmental statement indicates that the wave regime is likely to be disrupted around the installation with a shadow zone created between the array and the coastline. This may have the potential to disorientate returning migratory species.

Given the paucity of information on coastal migration routes for Atlantic Salmon and European eel and inshore habitats for Sea Trout, and the uncertainty surrounding the potential negative effects of marine renewable devices, it is important that the developer should recommend a scientifically robust monitoring strategy to assess any impacts either on stocks as a whole, or on particular rivers as necessary.

Due to the uncertainties surrounding the potential negative effects of novel marine renewable devices, the renewables industry and Scottish Government, as I understand, have adopted a strategy of survey, deploy and monitor. In order to assess the potential impact of developments the developer should provide information on all species and abundance of fish within the development area, the information contained within the E.S. appears to have achieved this. The onus is on the developer to provide adequate information on which to base an assessment of risk. Where there is a potential risk to salmonid populations, baseline survey data should be collected for a minimum of 2 years prior to construction to establish pre-construction characteristics. Following construction, there should be 3-5 years post development monitoring, with scope to extend this period if impacts are detected.

Monitoring throughout the development phase should be carried out to identify impacts and allow remediation at the earliest opportunity for sites where there are thought to be risks to migratory fish populations. The experimental design of the monitoring programme should focus on the risks presented by the development and be clearly justified. Methods of analysis, reporting mechanisms and links to site management should also be clearly

identified. These methods must be statistically robust to detect change and any monitoring must feed back into site management to trigger remedial action/restoration.

There are a couple of further points that OHFT feel have been omitted from the relevant sections of the E.S. Whilst we welcome the in depth consideration of the potential loss of habitat, both benthic and intertidal, that may occur in and around the proposed installation little has been eluded to with regards to potential aggregation effects. As stated within the E.S. the wave array will effectively assume the function of an artificial reef once all construction is completed. Whilst the aggregation of prey items around physical structures might be seen as a positive effect, possible negative effects may include the associated aggregation of predators which may increase competition/ predation pressure with respect to wild salmonids and migratory eels. It is therefore important to ensure that such effects are quantified and assessed in the Environmental Statement.

OHFT/WIDSFB would also appreciate a more detailed assessment of the risks posed by collisions with the wave array; something we feel is not adequately addressed in section 12.6.60 of the E.S. In relation to wild salmonids it is incorrect to assume that fish are "entrained within the water and therefore will move in a similar way and direction to the WECs". Aside from spending a considerable proportion of their lives in open sea conditions salmonids also swim up stream during spate conditions in order to locate spawning grounds and are therefore quite capable of swimming against wave and tidal induced currents. We would therefore appreciate additional consideration of this potential impact. Parallels should be drawn to data gathered from the hydro electricity industry on such effects.

Kind regards



Biologist

References

Hawkins, A., (2005) Assessing the impact of pile driving upon fish. Acoustics Ecology. Aquatics Issues. Proceedings of the 2005 International Conference on Ecology and Transportation. pp 21-22.



WDCS Scottish Dolphin Centre
Spey Bay, Moray
Scotland
Phone 44 (0) 131 661 7722

██████████@wdc.org

www.wdc.org

Adrian Tait
Marine Renewables Licensing Casework Manager
Marine Scotland – Marine Planning & Policy Division
Scottish Government
Marine Laboratory
PO Box 101
375 Victoria Road
Aberdeen AB11 9DB

26th April 2012

Dear Mr Tait

WDCS comments on Aquamarine NW Lewis wave array – Environmental Statement

Thank you for requesting comments from WDCS. WDCS are endeavouring to assist with the environmentally sustainable development of marine renewable energy in Scotland. Whilst welcoming the Scottish Governments' commitment to renewable energy generation, particularly noting the potential consequences of climate change for cetaceans (an issue that we are also working on¹), we have serious concerns about current levels of uncertainty and the possible negative impacts these developments may have on cetaceans (whales, dolphins and porpoises) in Scottish waters, both individually and cumulatively.

We look forward to strong guidance being provided by Marine Scotland to assist developers in meeting their environmental responsibilities, including through appropriately managing disturbance of European Protected Species (EPS).

The waters surrounding the Western isles offer one of the richest cetacean habitats in the UK. Many species not found in other parts of the UK are routinely found in coastal waters. Large gaps still remain in our knowledge of the cetaceans which live year round or migrate through our waters and this is especially true for the west coast of Lewis. No clear picture exists of the importance of this site for a number of species, including all three cetacean species that are Priority Marine Features (PMFs) and drivers in the Scottish marine protected area (MPA) project.

¹ See 'Whales in Hot Water' available at www.wdc.org

The land-based surveys conducted provide a snapshot of the diversity of cetaceans found in this area. Full scientific scrutiny of the data should be undertaken to ensure that development can safely proceed without impact on the marine environment. Observation monitoring should then continue during development to understand any displacement impacts, although significance will be difficult to determine given the existing data.

Focus of monitoring should be on understanding (and where required) minimising the effects on local cetacean populations. A well thought through scientific monitoring plan should be put in place to provide such evidence, including investigation of strandings along the coast line and novel techniques to assess collisions, entanglements and other direct incidents that may occur. This will be a considerable challenge. In-field monitoring should continue during development and post-development so that potential impacts can be assessed and adaptive management applied.

We have little information about how cetaceans will interact with other new renewable structures being placed in the water column and therefore other significant impacts may still come to light as the industry develops. Collisions with wave devices can be envisaged, and particularly when large numbers of devices are placed in the water covering a relatively large area, such as that being proposed.

Specific comments on the ES

Only one year's data is available, which severely restricts confidence in interpretation and is not adequate to make a full assessment. Two years data should be required.

As in all developments, noise modelling outlined in the ES should be ground-truthed with real in-field data for accuracy.

Table 11.2 identifies a number of sources from which data have been obtained. Detailed boat survey work in the region has been undertaken by the Hebridean Whale and Dolphin Trust (HWDT) and these data are now available. They should be considered in the assessment.

We note that Table 11.3 does not include an UNKNOWN column under magnitude of impact. Given the newness of the wave sector, there must be some scope for uncertainty surrounding the magnitude of potential impacts.

Given the potential value of the site for a number of species and the unknown nature of the potential impacts, we suggest that independent scientific advice should be provided on what a suitable monitoring programme might look like to effectively document and understand any potential impacts, and to understand those impacts that may not be monitorable at the current time. Such an independent scientific panel could be formulated to consist of the relevant expertise, including from the Scottish Association of Marine Science (SAMS), where most research into impacts of wet renewables has been undertaken to date. WDCS would welcome involvement.

Appendix 11

Accurate height of observation and subsequent distance to horizon should be provided.

Observations to a sea state 4 may be suitable for some species, such as Risso's dolphins but will certainly not be suitable for other species, including harbour porpoise and minke whales (Clarke, 1982; Palka, 1996). We note that 24% of surveys were conducted in a sea state 4.

It's not surprising that some visual surveys were not able to be completed due to inclement weather on this exposed part of the Western Isles. Acoustic monitoring would have provided a valuable compliment and ground-truthing to visual observations.

Providing a graph of number of sightings would have been useful in addition to number of animals per unit effort (Figure 3.5).

We note that half of basking sharks observed in the survey area were actively foraging.

Section 11.6.1 seems to be a little confused. It reports that harbour seal and basking shark populations are declining and that under a 'do nothing' scenario, they will continue to do so until the populations 'raise sustainable numbers and level off'. This is not a suitable projection for a declining population, where both harbour seal and basking shark numbers are depleted.

Appendix 11 states that no pile driving will occur. It is anticipated that the noise levels associated with drilling are lower than pile driving. We note that Table 11.6 identifies vessel noise as potentially having more of a disturbance impact than drilling. However, Table 5.2 in the body of the report highlights three months of pile installation during summer 2014. Summer is when a number of cetaceans, including minke whales, are most likely to be encountered in the area. Further consideration of this and adequate impact monitoring is required.

Whilst we may agree with the conclusion of section 11.6.7 that displacement of up to 280m will not negatively impact cetacean populations, the argument that the site is not known to be important to feeding and breeding is due to a lack of knowledge. Absence of evidence is not the same thing as evidence of absence.

Section 11.6.22 discusses the PBR for seals and a theoretical PBR for basking sharks and suggests that this development will not reach such levels. It appears to fail to understand that the PBR is for fatalities due to all activities, and not just this development. It should be a cumulative assessment. If the Scottish Government provides licenses to shoot XX harbour seals in the Western Isles, the number of seals remaining under that PBR is reduced by this number.

We were pleased to see the desk-based acoustic work that was commissioned (although as we have done on a number of occasions, we again note the lack of biological data to support acoustic and behavioural impact levels and subsequent distances provided). This desk-based data should be ground-truthed with the collection of in-field data.

The potential impacts on harbour porpoises are of note and should be considered by Scottish Government on a wider scale than this one project.

It would appear that Appendix 11 concludes that no mitigation is required. No monitoring is discussed at all, which is clearly unacceptable given that this is the first time that this number of devices has been put into the water in an array. It is difficult to see how undertaking no monitoring or mitigation for marine mammals is considered best practise.

We therefore request that an independent scientific panel be formulated to consist of the relevant expertise, including from the Scottish Association of Marine Science (SAMS), where most research into impacts of wet renewables has been undertaken to date and WDCS.

Cumulative impacts do not go far enough in considering other renewables devices in the immediate vicinity. Consideration of other activities should be included. Further, the distribution of basking sharks includes the entire west coast of the UK and cumulative impacts should at least investigate such a range and determine the appropriate level of consideration based on scientific guidance.

I'd be happy to meet in Edinburgh to discuss these comments further.

Yours sincerely

A large black rectangular redaction box covering the signature of the sender.A small black rectangular redaction box covering the name of the sender.

WDCS Head of Policy for Scotland

References

Clarke, R. 1982. An index of sightings conditions for surveys of whales and dolphins. Report of the International Whaling Commission, 32: 559-561.

Palka, D. 1996. Effects of Beaufort Sea State on the sightability of harbour porpoises in the Gulf of Maine. Report of the International Whaling Commission, 46, 575-582.

VOITH

Voith Hydro

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Fax
Date 9th May 2012
E-Mail [REDACTED]@wavegen.com

Your ref : 011/WAVE/APL - 5

Dear Andrew,

Voith Hydro Wavegen thanks you for the opportunity to comment on the application by Lewis Wave Power Limited to construct a wave array off the North West coast of the Isle of Lewis.

Having reviewed the documentation we wish to report we have no objection to the project as described.

In principle Voith Hydro Wavegen supports the development of projects which increase the momentum of wave energy deployment in the Western Isles. The wave energy resource in the Western Isles is amongst the best in the world and projects here will be pivotal in achieving the Scottish government and UK government renewable energy targets.

Yours sincerely

[REDACTED]
[REDACTED]
Chief Executive Officer
Voith Hydro Wavegen

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The logo for Wavegen, featuring a stylized wave icon above the word "Wavegen" in a sans-serif font.



HISTORIC SCOTLAND
ALBA AOSMHOR

Mr Andrew Sutherland
Marine Scotland
Scottish Government

Longmore House
Salisbury Place
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EH9 1SH

Direct Line: 0131 668 8657
nicola.hall@scotland.gsi.gov.uk

By email: ms.marinelicensing@scotland.gsi.gov.uk

Our ref: AMN/16/W
Our Case ID: 201107735
Your ref: 011/WAVE/APL - 5

26 April 2012

Dear Mr Sutherland,

The Electricity Act 1989

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000
Marine (Scotland) Act 2010
Wave Array, North West Lewis, Western Isles

Thank you for your letter of 19 March 2012 and the Environmental Statement (ES) for the above development proposal.

This response covers our comments under the terms of the above Regulations and concentrate on our statutory remit for scheduled monuments and their setting, category A listed buildings and their setting, gardens and designed landscapes included in the Inventory and designated wreck sites (Protection of Wrecks Act 1973). In this case, our advice also includes matters relating to marine archaeology outwith the scope of the terrestrial planning system. The Western Isles Council's conservation and archaeology services will also be able to advise on the adequacy of the assessment, the likely impacts and the mitigation proposed for the historic environment.

The Environmental Statement (ES)

Overall, I welcome that the ES is clear and that it references our *Managing Change in the Historic Environment* technical guidance note on setting and the relevant marine archaeology guidance. I have some concerns however with the sensitivity criteria used (Tables 188.4 and 188.5) which assign negligible values to cultural heritage features that are poorly preserved, or those that are regarded as being 'imperceptible in the landscape'. We would argue that monuments do not necessarily need be visually prominent to have a significant setting, and that their condition does not affect their level of significance or the potential impact on them.

The Planning Application

The development proposal comprises a wave array (40 and 50 Oyster devices) to be located approximately 600m from the coast, and supporting infrastructure (pipelines, a temporary construction area, an onshore compound, an access track and track widening and an onshore pipeline installation area). In summary, we are broadly content to agree with the findings of the ES that significant impacts on cultural heritage features within our statutory remit are unlikely. We are also broadly content with the assessment of potential impacts on marine archaeology. In light of this, we offer no objection to the proposal.

I hope this response is of assistance to you.



www.historic-scotland.gov.uk

Yours sincerely,



Nicola Hall
Senior Heritage Management Officer

Sutherland AI (Andrew)

From: Morrison D (Donald) (Fisheries)
Sent: 04 May 2012 11:59
To: MS Marine Licensing
Subject: RE: 011/WAVE/APL - 5: One Week After Request For ES Comments Lewis: 04 May 2012

Good afternoon Andrew

I've attended several meetings and presentations where this proposal has been discussed and these comments are based on the feedback received.

This particular area is fished regularly by 6-7 fishing vessels based in the Western Isles. These vessels are under 10m in length and operate from Carloway and Bernera, on the west side of Lewis. The feedback from these fishermen is that the area of the proposal is of high commercial importance, and that any area to which they were displaced to would not produce the same high catches.

Local industry also feel that its important that development does not create any seabed obstruction which would result in a snagging hazard.

Regards

Donald Morrison

Senior Fishery Officer
Marine Scotland – Compliance

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From: Sutherland AI (Andrew) **On Behalf Of** MS Marine Licensing
Sent: 04 May 2012 10:35
To: FO Stornoway
Subject: 011/WAVE/APL - 5: One Week After Request For ES Comments Lewis: 04 May 2012

Dear Sir / Madam,

ELECTRICITY ACT 1989

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000
The Electricity (Applications for Consent) Regulations 1990

MARINE (SCOTLAND) ACT 2010

The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended)

APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND A MARINE LICENCE UNDER PART 4, SECTION 20 OF THE MARINE (SCOTLAND) ACT 2010 TO CONSTRUCT AND OPERATE WAVE ARRAY, NORTH WEST LEWIS

The deadline for providing comments on the proposed works detailed above was **26th May 2012**. As the deadline has now passed please contact us immediately to arrange an extension to the consultation period if you wish to provide comments. If you have no comments to make please submit a "nil return" response.

You should already have received a copy of the Environmental Statement.

Yours sincerely,

Andrew Sutherland

Andrew Sutherland

Marine Renewables Licensing Advisor

Marine Scotland – Marine Planning & Policy Division

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<http://www.scotland.gov.uk/topics/marine/licensing/marine>

<http://www.scotland.gov.uk/topics/marine/science/msinteractive>

<< Message: 011/WAVE/APL - 5: Request for comment: One Week Reminder: 19 April 2012 >>

011/WAVE/APL - 5: APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND A MARINE LICENCE UNDER PART 4, SECTION 20 OF THE MARINE (SCOTLAND) ACT 2010 TO CONSTRUCT AND OPERATE WAVE ARRAY, NORTH WEST LEWIS.

Marine Scotland Science have read and reviewed the environmental statement and technical appendices, sent by Aquamarine Power Ltd along with their application for consent. Comments have been provided by topic along with comments on the relevant appendices where applicable.

Chapter 7 – Physical Environment and Coastal Processes.

In general this section concisely addressed the main relevant points. There were however several minor comments we would like to make.

- Figure 7.4 (p.11): Please indicate in the caption that this is model output.
- Figures 7.5 and 7.6 (p.12, p.13): Please improve quality of figures, as it is hard / impossible to read the axes.
- Figure 7.7 (p.15): Define RSL in caption and/or text.
- 7.6.24 (p.18): Wave driven transport of the sediment should also be considered here.
- 7.6.81 and 7.6.82 (p.25): There should be some mention of the potential cumulative effects during the operation of these arrays at the same time. It is hard to predict such cumulative impacts, but they are not expected to be significant. It would be very helpful if the location of both projects were shown on a map.

Section 3.1.3 of the Lewis Wave Power Limited Environmental Scoping Report refers to the gathering data relating to site hydrodynamics (waves and tidal flows), and undertaking wave resource modelling, which will provide valuable input to the coastal processes assessment. Has this modelling been undertaken? Would this modelling be of use to understand what the potential interactions would be between the two shallow water renewables projects?

Chapter 9 – Benthic Ecology

The developer has described SS.SCS habitat at Labost and Siadar in the technical annexe and later in this document. We feel it should also be mentioned in 9.2.1.

The removal by hand of the Laminaria, described in 9.3.1, will inevitably include stones, rocks and cobbles attached to the kelp holdfasts. Does the diver operation include returning these substrata to the seafloor or will the rocks etc also be removed (permanently)? This removal will constitute a significant alteration of the habitat which, if it goes ahead, will have to be considered as a separate issue in the ES. A description of where and how the developer intends to discard the kelp should also be provided.

The developer mentions that “the wave climate may alter the nature of the subtidal environment”, this may have been described in another section, for completeness it would be worth describing the details of this interaction within this section as well.

We do not agree with the assessment regarding settlement on the new hard substrate. Settlement speeds onto new surfaces may differ between native and non-native species. It is

possible that non-natives colonise new surfaces quicker than "locals". Also, natives settling onto new surfaces may no longer be found in the local community as they may have been out competed and have disappeared through successional changes over the years.

During the consultation on methodologies were MSS consulted? Were any of the research cruises carried out by MSS. If so these should be referenced. Throughout the benthic section of the ES, the authors refer to the paper by Moore and Roberts, 2011. Is this the paper commissioned by MSS to analyse TV and still photography collected by MSS? If this is the case then some reference to MSS input would be acceptable.

In 9.6.6, a development footprint range is provided, why is this range so huge? Can the developer provide a more precise estimation? Also, the estimates of percentage impact (0.13% of the Moore and Roberts survey (MSS survey area?)) is a bit meaningless as no overall size of the area for this survey is presented.

The acute, short term smothering impacts described in 9.6.10, 11 and 12 may cause major impacts on the fauna and flora in the vicinity of the construction activities. Species loss may occur.

The developer seems to contradict themselves in 9.6.23. They describe potential changes in flora and fauna as being "of considerable interest and significance biologically" but they then state that these changes will be within natural levels of fluctuation.

We do not agree with the conclusions in 9.6.24 regarding the pipes acting as artificial reefs, if these are smooth they probably don't constitute an artificial reef but are more akin to harbour walls etc. The footing assembly mentioned in 9.6.25 is more like an artificial reef structure.

We would recommend that the developer carry out both intertidal and subtidal monitoring as changes may happen subtidally before/instead of the intertidally.

The developer should provide clarification of what it terms "natural changes", are they referring to storm events etc or natural community successional changes.

We would recommend that there is some QC carried out on this section as there were several grammatical and formatting errors. Particular attention should be paid to the spelling of scientific names of species described in the section.

Appendix 9.1 Benthic Survey Report.

When the developer is describing the methodology for the benthic survey do the sampling positions cover any control sites ie any sites out with the possible development areas?

Where have the developers derived the bathymetric data presented in figures 5, 6, 7, 8, 11 and 12? This should be referenced, especially if this is from an external source.

There are several errors in the figure nomenclature and this should be addressed.

Chapter 12 – Fish and Shellfish

This section has been subdivided into migratory freshwater species and marine fish species.

Migratory fish species

General comments

The potential impacts are identified and discussed in the ES. The presence of salmon, sea trout and eels is correctly identified. Generally there was a clear understanding of potential risks and of the ecology of relevant species. The report was generally well written and given available information produces a reasonable and well argued assessment of risk. I also note the comments from SNH that they do not consider that an HRA was required for the nearest SAC at Langavat. Given this position MSS have no further major comments to make at this stage. A few specific details are noted below for the developer.

Specific Comments

In 12.5.46, it is likely that better information on salmon distribution would be obtained from the local board, trust or the map of salmon distribution for Scotland (Gardiner and Egglshaw Scottish Fisheries Publication ISBN 0 903386 10 0). Salmon are present in a number of rivers on Lewis

In 12.5.50, the ES states that salmon numbers have declined and that grilse numbers have increased and that this is consistent with fish maturing earlier and returning earlier to freshwater. We don't believe there is any scientific support for this hypothesis although Malcolm et al. has been cited. In general terms age at return is thought to be a heritable trait and the reasons for variation in the relative contribution of grilse and salmon numbers to the overall adult catch are largely unknown (and temporally variable).

Marine fish species

The developer has again identified the key issues and discussed these within the ES. In Table 12.1 the authors for Coull et. al. 1998 should say Fisheries Research Services(FRS) and CEFAS. There may have been additional information in the Regional Locational Guidance for wind produced by Marine Scotland.

In 12.5.17, there appears to have been several assumptions made by the developer. It is assumed that all fishers are equally efficient at catching fish and different species are targeted with various degrees of effort. All of these will vary across years, we believe this makes it very difficult to draw the conclusion that there are less commercial exploited fish in the area.

The reductions in landings of *Squalus acanthias* as mentioned in 12.5.37, could be the result of percentage restrictions being implanted on the landing of the species as by-catch only rather than solely a reduction in abundance.

In Table 12.10, we would recommend the developer amend the effect of underwater noise on spiny lobsters and green crab to unknown rather than not sensitive. As both these species use sound and are receptive to sounds but to what degree and whether damage from excessive sound can occur has not been proven.

The developer should show continuity between other sections when describing the footprint of the site. Also see comments in benthic section regarding footprint description.

Cumulative impacts of the development in conjunction with the neighbouring sites during operation should be given consideration along with any proposed Marine Protected Areas (MPAs) within the vicinity.

Chapter 16 – Commercial Fisheries

Fish and shellfish fisheries

The developer has identified that currently there is a low level of commercial fishery for fin fish species. There are however concerns that this sector will increase due to changes in the restrictions that have been in place on the fleet.

We have some concerns over the level of importance that the developer has placed on the crab/lobster grounds for the local fishermen. This area is a key fishing ground with high productivity compared to neighbouring areas.

Fishing is unlikely to be uniform along the coast so the assessment that 98% of the area would still be available may over estimate the actual area of productive fishing ground available to the fishermen.

There are also increased costs associated with fishing at new grounds which should be taken into account. These include increased fuel costs due to increased travel and searching for new grounds. Loss of earnings until similar grounds are found. Dependence on stable fishery for incomes in a low income area.

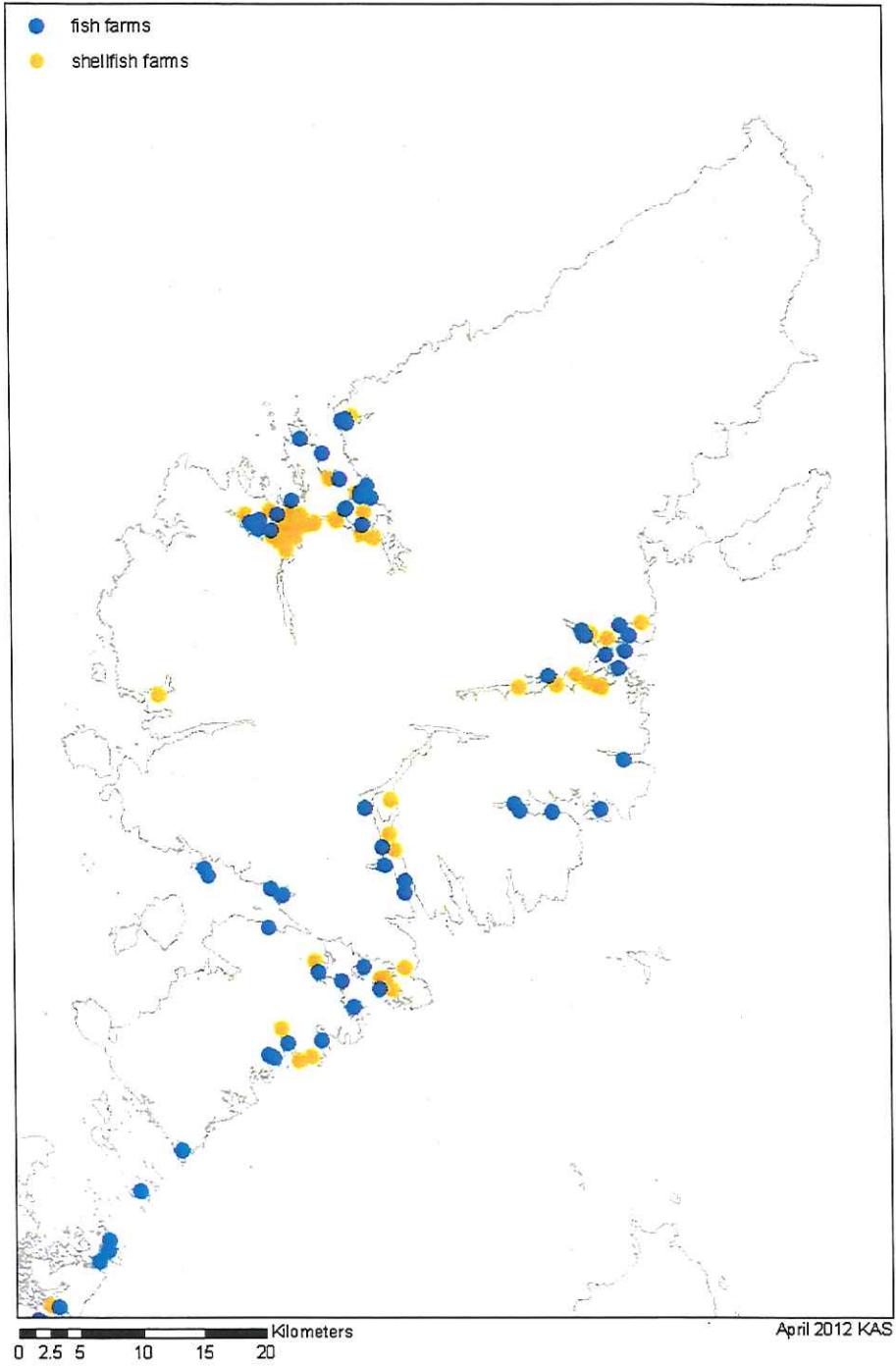
Again the assessment of cumulative impacts should not only take inconsideration of the construction of other sites but also operation and the associated areas of exclusion at those sites which may further reduce available grounds. The developer should also think of other restrictions may be imposed from any proposed MPAs which may be in the vicinity of not only their site but also with the neighbouring wave/tide sites.

Aquaculture

There are no aquaculture sites within the proposed development area for the Oyster Wave Array Project on the North West Coast of Isle of Lewis (see map attached below).

The closest aquaculture sites are located in Loch Roag which is 28km south west of the development. Loch Roag is an area of extensive aquaculture production, currently consisting of 7 active seawater finfish farms and 22 active shellfish farms. There are also 12 inactive seawater finfish farms and 3 inactive shellfish farms in Loch Roag.

Location of seawater aquaculture production sites in Isle of Lewis



Trunk Road and Bus Operations

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CÒMHDHAIL
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TRANSPORT
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Marine Scotland
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

Your ref:
011/WAVE/APL - 5

Our ref:

Date:
22 March 2012

FAO – Andrew Sutherland

Dear Mr Sutherland

ELECTRICITY ACT 1989

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The Electricity (Applications for Consent) Regulations 1990

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MARINE LICENCE UNDER PART 4, SECTION 20 OF THE MARINE (SCOTLAND) ACT 2010 TO
CONSTRUCT AND OPERATE WAVE ARRAY, NORTH WEST LEWIS**

I refer to your letter dated 19 March 2012 and the accompanying report. The comments of the Trunk Road and Bus Operations Directorate (TRBOD) are as follows.

The proposed development represents an intensification of the use of this site however the percentage increase in traffic on the trunk road is such that the proposed development is likely to cause minimal environmental impact on the trunk road network. On this basis TRBOD has no comment to make. I will return your documents under separate cover.

I trust this meets your requirements.

Yours sincerely,



Sally Hartley
Development Management

Sutherland AI (Andrew)

From: Ferguson V (Val)
Sent: 20 April 2012 09:31
To: Tait A (Adrian) (MARLAB)
Subject: RE: 011/WAVE/APL - 5: Request for comment: One Week Reminder: 19 April 2012

Adrian,
I have no comments on this application.

Val Ferguson
Ports and Harbours Branch
Area 2G North
Victoria Quay
Edinburgh
EH6 6QQ
0131 244 7878
val.ferguson@transportscotland.gsi.gov.uk

From: Tait A (Adrian) (MARLAB)
Sent: 19 April 2012 18:17
To: Ferguson V (Val)
Subject: 011/WAVE/APL - 5: Request for comment: One Week Reminder: 19 April 2012

Dear Ms Ferguson,

ELECTRICITY ACT 1989

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000
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A MARINE LICENCE UNDER PART 4, SECTION 20 OF THE MARINE (SCOTLAND) ACT
2010 TO CONSTRUCT AND OPERATE WAVE ARRAY, NORTH WEST LEWIS**

Please find attached the consultation letter for the above application. I would be grateful for any comments you have by **26th April 2012**. If you are unable to meet this deadline, please contact us to arrange an extension to the consultation period. If you have no comments to make please submit a "nil return" response.

You should already have received a copy Environmental Statement.

Many thanks,

Adrian Tait

Adrian Tait

Marine Renewables Licensing Casework Manager

01/06/2012