Queiros J (Joao)

From: [redacted]@rspb.org.uk>
Sent: 02 July 2014 17:10
To: MS Marine Licensing
Cc: Ford A (Alexander)
Subject: 002/TIDE/SPR - 2: ScottishPower Renewables: Sound of Islay Demonstration Tidal Array
Attachments: SdofIslay-TidalArray-RSPB-July14.pdf

Hello
Please find attached our response to this application.
Do contact me if I can be of further assistance.
Regards
[redacted]

[redacted]
Conservation Officer Argyll & Bute

South & West Scotland Regional Office 10 Park Quadrant, Glasgow, G3 6BS
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RSPB Scotland is part of the RSPB, the country's largest nature conservation charity, inspiring everyone to give nature a home. Together with our partners, we protect threatened birds and wildlife so our towns, coast and countryside will teem with life once again. We play a leading role in BirdLife International, a worldwide partnership of nature conservation organisations.

giving nature a home

RSPB Scotland

Licensing Operations Team
Marine Scotland
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

2 July 2014

Dear Sir/Madam

Sound of Islay Demonstration Tidal Array

Thank you for consulting RSPB Scotland on this application. We recently responded to Argyll and Bute Council regarding the onshore element of this proposal (correspondence dated 02-06-2014). Similar information in response to the onshore element of works is included below. Our position in regards to the marine aspects of this proposal remains unaltered from our previous response (correspondence dated 11-10-2010), which is appended to this letter.

RSPB Scotland has no objection to the proposed tidal turbines, as a trial deployment, but advises that a comprehensive programme of monitoring should be put in place and a working group established to advise on mitigation measures required, including shutdown, if impacts are found to be greater than assessed within the Environmental Statement (ES). These requirements should be attached as conditions to any planning consent.

In regards to onshore works (deemed planning permission), we advise that this area is extremely sensitive and it is essential that appropriate planning conditions are in place and are strictly enforced to prevent disturbance to golden eagle.

RSPB Scotland supports the project in principle and we welcomed the Scottish Governments decision to grant consent to the original scheme in 2011. However, as detailed further below, we have concerns about the proposed amendments to the onshore components due to impacts on golden eagle (annex 1 species). Although, we believe that if the works are appropriately managed then it maybe possible to avoid disturbance. We have worked closely with the applicant to try and ensure that these concerns have been fully taken on board.

We would also like to highlight that we have raised concerns relating to the onshore components for a number of marine renewable projects. A requirement to include an assessment of suitability of onshore connection, sub-station and related works for marine renewable projects at an early planning / feasibility stage would help to reduce potential concerns.

Marine Application

Our position remains the same as in our previous response to this project which is attached as an appendix. In particular, we would like to highlight that monitoring and a working group are essential aspects which should be conditions attached to any consent.

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BirdLife INTERNATIONAL

Onshore Works - under deemed planning permission

RSPB still have some reservations about the building a sub-station so close to an active eagle eyrie especially since this is the only nest site within the eagle range. We wish to emphasise that the site of the proposed onshore works is extremely sensitive, with development of this kind never occurring before so close to an active eagle eyrie. There is a duty to use all reasonable endeavours to avoid pollution or deterioration of habitats of wild birds in Scotland (the Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2012).

Detailed planning conditions need to be in place and strictly enforced to prevent disturbance to golden eagle. These should include a requirement to undertake all the mitigation measures outlined on pages 68-71 of the Environmental Review report.

We have worked closely with the developer to advise on mitigation and welcome the measures outlined on pages 68-71 of the Environmental Review. However, we have concerns that the proposed timeframe on page 22 of the Environmental Review report (June 2015 to February 2016 – Onshore construction) suggests that construction will occur within the breeding season. There are also inconsistencies between the mitigation measures proposed in the Environmental Review, and the supporting appendices. RSPB would like to be consulted when finalising conditions to ensure that the full range of sensitivities are considered for golden eagles. We would like to be consulted if the applicant seeks to lift/alter any condition within a particular breeding season.

Please contact me if you require further information on our response.

Conservation Officer, Argyll and Bute

cc. Kate Bellew – Conservation Planner, RSPB

Appendix One – RSPB Response 2010.

RSPB SCOTLAND
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Fiona Thompson
Licensing Operations Team
Marine Scotland
Marine Laboratory
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AB11 9DB
11 September 2010

Dear Ms Thompson

ELECTRICITY ACT 1989
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2000
PROPOSED DEMONSTRATION TIDAL ARRAY, SOUND OF ISLAY

Background
Thank you for consulting RSPB Scotland regarding this application for a demonstration tidal array site within the Sound of Islay. This will consist of 10 tidal turbines (Hammerfest HS1000) with a generating capacity of 10MW, with a life span of 7-14+ years.

The turbines are to be located in water of over 48m situated upon the seabed within the Sound of Islay to the south of Port Askaig. The Crown Estate has been approached in regards to leasing this area of seabed. The Array will be positioned in four rows and spaced based upon flow modelling. The turbines are currently being developed by Hammerfest Strøm (HSUK) and produce energy on flood and ebb tides. The device is a rotor-based turbine (23m diameter) with the nacelle (hub height 22m) attached to a tripod support structure that is positioned upon the seabed using gravity ballast in its legs (height from seabed approx 33.5m and below sea surface of 16.5m). The deployment at this relatively sheltered site allows for developing procedures suitable for future use at high energetic sites.

RSPB Scotland has no objection to this proposal, as a trial deployment, but advises that a comprehensive programme of monitoring should be put in place and a working group established which will advise on mitigation measures required , including shutdown, if impacts are found to be greater than assessed within the Environmental Statement (ES). These requirements should be attached as conditions to consent.

Environmental concerns

The Sound of Islay provides a marine habitat for a variety of marine species and those most at risk from the proposal will be marine mammals, basking shark and seabirds. These are liable to potential collision and disturbance and displacement from the development. In relation to seabirds, it is diving species which are most at risk, these include black guillemot, guillemot, razorbill, cormorant, shag, eider, common scoter, great northern diver (GND) and red-throated divers (RTD).

Although the Sound does not support large concentrations of seabird it appears, disappointingly so, that the ES is based upon less than a years worth of survey data (14.19) with regular survey data between May- November 2009 only so data for December – April is lacking. Ideally the ES should not have been submitted until at least a full years worth of data was included for assessment. It renders statements of occurrence contained within the ES as 'throughout the year' as possibly misleading and does not allow for full consideration of numbers of species present in the winter i.e. it is likely that wintering species such as GND will peak within the period that is not included this is not made clear within the ES. However although this limits the assessment based upon current knowledge it is unlikely that diving birds will occur in such numbers winter that impacts are likely to be significant. But it places a question over the assessment of potential impacts on wintering diver and duck species, which an addendum to the ES should cover.

It is somewhat disappointing that sub-surface monitoring appears limited to passive sonar survey for marine mammals with no attempt to place active sonar or other monitoring techniques sub-surface within the sound to monitor movements through the site prior to installation.

1. Ornithology

Seabirds

The survey looks at usage by birds of the sound of Islay through vantage point work which provides an indication of preferred areas. From the information contained within the ES it appears that the potential for impacts will be upon Black guillemot, razorbill, shag and gannet. The other species occur at much lower numbers and/or aspects of their ecology mean they should not be effected.

Black guillemot – 35 pairs breed within the Sound with the pre-breeding survey suggesting 4 pairs occur within the Sound adjacent to the array area. Snapshot counts show birds use areas outside of, but in very close proximity to, the site. Black guillemots are thought to pursuit dive down to 50m so potentially they maybe displaced or collide with the turbines. The EIA considers the placement of suitable nest structures away from the development area as a potential mitigation measure as suggested by RSPB Scotland at the scoping stage.

Guillemot/razorbill – Mostly occur in summer in small numbers. Razorbills are recorded more frequently than guillemots, up to six times more numerous. Numbers of razorbill present are highest in the late summer (involving adults with young) typically 5-15 birds but there are records of 40 and 90 birds present in August. The ES considered that these birds maybe from the North Colonsay and Western Cliffs SPA it may also be likely that birds from the Rathlin Island SPA occur within this area, however numbers are relatively small and so they is unlikely to be a significant impact on these population. Being known deep divers, over100m+, they potentially maybe displaced by or collide with turbines.

Shag/Cormorant – Cormorants only small numbers recorded. Shag is the most common bird recorded with approximately 15-20 birds in spring, 20-25 autumn and 40 in winter. Two small local colonies occur but breeding numbers are small relative to the regional population. They use intermediate diving depths and snapshot counts show that birds do not feed within the site but do occur within the surrounding area close to site boundary. Diving down to over 40m means that they are potentially at risk from displacement and/or collision.

Gannets – higher numbers present in summer with typically 5-10, and sometimes up to 20+ birds present. Flying bird data shows that passage peaked in August (44 birds an hour). With a capacity to dive down to at least 20m they are potentially at risk of displacement / collision.

Divers – RTD low numbers spring-summer (maximum 3 birds observed) and GND low numbers (passage 1-2 and winter 2-4 birds). It is not clear what data is used for the winter counts – whether more recent data not contained within the Annex was included in the ES assessment to provide wintering numbers. Able to dive to *c*60m birds occurring could potentially be impacted.

Eiders – moderate numbers present with a peak of 156 in October; these figures are of regional significance at 3% of the population. However, data collected shows that within the sound they prefer shallow areas for feeding, but can dive to 40m. **Common scoter** - few records with no feeding activity observed.

Manx shearwaters recorded on only a few occasions with the largest group 200 dip-feeding mid Sound in August. Generally shallow feeders and low occurrence means that they should not be at risk.

Gulls – Common and herring frequently recorded; lesser black-backed less frequent and in summer only; great black-backed throughout year but more occur in winter. Operation of the array will not impact on these species due to their ecology.

Kittiwake – usually moderate numbers where 5-20 birds present. It is interesting that extrapolation of the flying bird watch data would mean that approximately 23,000 birds would pass through the sound of Islay in July-August. **Terns** – small numbers of arctic terns present in the summer. These are near surface feeders so at no risk from the development.

Raptors
We did not receive the confidential Annex upon nest sites of the species mentioned, however based upon data we hold (nest locations) we do not assess the potential impacts on these species as significant.

2. Benthic ecology
The benthic survey concludes that faunal communities that occur within the area are typical of communities exposed to strong water movement. The communities of tidal rapid areas are rare in the UK but currently have no legal protection. Marl was found to occur (transect 26 and possibly 19) but these lie outside of the site area. Impacts are assessed as being localised to turbine foundation areas and cable routes. Disturbance is therefore limited and within a high-energy environment which is naturally subject to changes. Any impacts from the array are therefore considered to be negligible.

3. Marine Fish/ shellfish and Andromous fish

The ES suggests that impacts will be minor on marine fish and shellfish, with little usage of the sound by migratory fish. With regard to marine fish, the ES states that in relation to the array acting as a barrier to movements through the sound and associated collision risk, effective mitigation is not possible but as a worst case scenario the effects will be minor.

4. Elasmobranchs

Our concern here focuses upon basking shark which is a globally threatened species; although a number of other shark and ray species are also thought to occur within the area. Although basking sharks are typically recorded near the surface (13.93) this is a product of their visibility whilst feeding. They do not always remain at the surface; therefore exclusion from collision risk within the ES (13.96) would seem unwise. The ES notes (13.35) that survey work concludes there is a low number of sightings around Islay and the Sound of Jura. SMRU surveys recorded two in August and September within the Sound of Islay. On a recent visit to Islay, I recorded a number of basking sharks. Two were observed from Port Askaig, one close inshore and another towards the mid channel. Both were actively feeding and moved off slowly southwards. Another five were observed to the north between Port Askaig and the Rhuvaal lighthouse. This is considerably more than recorded during the survey work suggesting that the data/surveys used within the report has not sufficiently estimated the species resource within the area. How this species uses the water column between feeding (near surface) and non-feeding (potentially swims deeper) bouts is a question which will be difficult to answer in regards to collision. The ES makes it clear that potential impacts of electromagnetic fields upon shark's electro-receptors are poorly understood. Mitigation is required to further assess collision risk upon this species. Being a near surface feeder, electro-magnetic impacts are unlikely whilst feeding, however use of different water depths whilst not feeding should be considered. It would be of real interest to know if ongoing array surveys during 2010 have picked up additional sightings.

5. Marine mammals

Past information gathered within the area and new survey work is utilised to assess potential impacts. All cetaceans and seals are classed as European protected species.

Cetaceans and seals appear to occur in low abundance in the array area compared to the wider Islay area. Species which occur include harbour porpoise, bottlenose dolphin (resident pod within area), minke and killer whale plus seal species. Of these, it is harbour porpoise and the two seal species which are most abundant within the area and therefore potentially most at risk of negative impacts.

In relation to hearing ability, it would appear that the sound signature of the devices against the background noise will only be apparent relatively close to the turbines (20-400m) so that animals may already be in close proximity before they realise that there are any novel structures nearby. These distances should give an animal which comprehends them as a threat time to alter its course. However, how they will interpret the noise and react to it is not known and it could potentially attract inquisitive species. Over time, a degree of habituation may also occur.

The deploy and monitor approach specified within the ES should be required as a condition of consent with a provision for suitable mitigation to be applied if impacts are found. Monitoring should try and research the reaction of cetaceans to the installed turbines so to inform any further tidal arrays.

6. Monitoring

RSPB Scotland would welcome involvement in any monitoring project established as part of this development. The proposal, as the ES states, will need to be monitored to establish if impacts do occur in relation to the seabird species specified, marine mammals (cetaceans and seals) and basking shark. Whilst the area is used by diving seabirds, the numbers present are not high and it is unlikely that a significant impact would result even if some limited impacts do occur. It seems that it is marine mammals and basking sharks that are at the greatest risk of potential impacts. A key issue in assessing this application is the limited knowledge we currently have regarding the impact of tidal devices within the marine environment. Although the ES concludes that impacts on marine mammals and basking sharks are likely to be low, this is not based on any real understanding of how these species will react to the turbines. Similarly, we have no comprehension of the potential of diving birds to collide with the turbines, although as previously stated the area appears relatively unimportant in terms of diving bird populations.

Subsurface monitoring

Subsurface monitoring is required although there are a range of technical and practical issues. We advise that the deployment of remote sensors on the turbines should ideally include both video, although thermal imaging devices may be a better option than video given visibility issues, and sonar. Sonar/ thermal imaging could be installed on/near the turbines to monitor mammals and birds passing close to the structures. Research work is currently being carried out on establishing the sonar signatures of birds. Similarly underwater video (visibility permitting) could potentially be used to monitor interaction with the turbines. The turbines within this array should all be fitted with collision sensors so that direct impacts are recorded. In-depth monitoring work is required on this trial array to establish that the conclusions that are reached in the ES of minimal impacts area correct. These are based largely on assumption rather than detailed knowledge (especially for marine mammals and basking sharks), and further research is required to achieve a fuller understanding of the potential interactions between marine sub-surface turbine arrays and marine organisms. The survey work undertaken should be robust enough to show that any impacts resulting from the deployment of a full array will be acceptable. This project therefore should be seen as an opportunity to carryout research into interactions of turbines with marine life.

Surface monitoring

Surface monitoring should also be carried out this should cover survey work in years 1, 3, 5 and 10 upon birds, marine mammals and basking sharks to achieve as comprehensive as possible a data resource for tidal devices deployment.

As best practice records of any leakage of contaminants from the turbines and associated vessels plus loss of equipment / materials should be recorded and reported throughout the life span of the project.

7. Mitigation

Although there is mention of mitigation within the ES in regards to marine mammals (which should also include basking shark), we are unsure how this mitigation will reduce impacts. Most of the mitigation outlined seems to consists of monitoring rather than any actual techniques to mitigate for any impacts which occur. Hence the developer will be applying for EPS licences since disturbance is likely to occur during deployment and may persist thereafter. We advise that a more precautionary approach, given the uncertainties of impacts at this stage, would be the deployment and monitoring of up to 3 devices so that impacts can be assessed at a smaller scale. We are unaware of any proven mitigation measures which could be used if it is found that collision is an issue. It would seem that the only reliable method to avoid collision would be an ultimate shutdown condition. It may be

feasible to install a sonar induced shut down system, if marine mammals/basking shark are detected to be approaching the array lasting as long as they remain in the vicinity. We note the ES states that in relation to the array acting as a barrier/collision to fish passing through the sound effective mitigation is not possible but as a worst-case scenario the effects will be minor. If barrier/collision is found to be an issue for marine mammals and basking sharks and deterrents such as audible warning devices fail to discourage them, the impacts will be more significant and the only realistic mitigation option will be shutdown, to ensure minimum impacts on these species.

8. Conclusion

Tidal arrays are a new technology and research into their impacts on the marine environment and life are in its infancy. From the survey work collated for the ES, it would appear that no major concerns are currently discernable through this project. However a system of monitoring and research is required to further assess impacts and reactions to the tidal array. This project provides an opportunity to try and establish the likelihood and potential impacts of marine life – turbine interactions. We would therefore recommend that the following conditions are attached to any consent that may be granted:

A comprehensive programme of monitoring should be agreed by relevant stakeholders prior to commencement of development.

A working group, comprising relevant stakeholders, should be established prior to commencement of development which will advise on mitigation measures required if impacts are found to be greater than assessed within the ES.

We hope you find these comments helpful. Should you require clarification of any of the above points please do not hesitate to contact me

Yours sincerely

[redacted]

[redacted]

Conservation Officer, Argyll and Bute

cc. Louise Gunstensen – Conservation Planner, RSPB