



HISTORIC
ENVIRONMENT
SCOTLAND

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By email to: MS.Marinelicensing@gov.scot

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

Longmore House
Salisbury Place
Edinburgh
EH9 1SH

Deirdre.Cameron@hes.scot
T: 0131 668 8896

Our ref: AMA/16/31/53
Our case ID: 300026774
Your ref: 06642
06 March 2018

Dear Sir/Madam

[Marine \(Scotland\) Act 2010](#)
[Nova Innovations Ltd - Shetland Tidal Array Extension](#)

Thank you for your e-mail enquiry of 22 February requesting our comments on this Marine License application.

I can confirm we have no comments to make on the proposals.

We do, however, have concerns at the apparent lack of consideration given to potential cultural heritage impacts within the application and its supporting documents. We would expect an application such as this to consider such potential impacts, if only to show that the risk to cultural heritage assets would be negligible. However, having carried out our own analysis of the archaeological record for the area, we are content that the extension will not affect any known archaeological sites and is unlikely to result in a level of disturbance that would require any further investigation to assess impacts on unrecorded features or deposits.

Yours faithfully

Historic Environment Scotland

Humphries S (Sophie)

From: Carole Laignel <carole@ssmo.shetland.co.uk>
Sent: 12 March 2018 12:28
To: Humphries S (Sophie)
Subject: RE: Nova Innovations Ltd - Shetland Tidal Array Extension, Bluemull Sound, Shetland - Consultation - NIL RETURN ASSUMED

Sorry, I should have responded on Friday but, just to let you know that after consultation with our licensed members, we have no objection to the marine licence to undertake an extension of the tidal array in Bluemull Sound provided that the site is adequately lit and marked for navigational safety.

Regards

Carole Laignel
Inshore Co-ordinator
SSMO
Shetland Seafood Centre
Stewart Building
LERWICK
ZE1 0LL
Tel: 01595 693197
Fax: 01595 694429

From: Sophie.Humphries@gov.scot [mailto: Sophie.Humphries@gov.scot]
Sent: 12 March 2018 11:30
To: FO.Lerwick@gov.scot; hnpengineers@btconnect.com; carole@ssmo.shetland.co.uk; planning.scotland@rspb.org.uk; renewables@sff.co.uk; marineplan@uhi.ac.uk; Val.Ferguson@transport.gov.scot; marine@crownestatescotland.com
Cc: Panos.Pliatsikas@gov.scot; Joao.Queiros@gov.scot
Subject: Nova Innovations Ltd - Shetland Tidal Array Extension, Bluemull Sound, Shetland - Consultation - NIL RETURN ASSUMED

Dear all

Further to my previous e-mails below, please note that this consultation has now closed and a 'nil return' assumed for your organisation.

Kind regards

Sophie

From: Humphries S (Sophie)
Sent: 02 March 2018 08:06
To: FO Lerwick; 'hmconsultations@hes.scot'; 'navigationsafety@mcga.gov.uk'; planning.scotland@rspb.org.uk; Planning Dingwall; renewables@sff.co.uk; 'MARINEENERGY'; Ferguson V (Val); marineplan@uhi.ac.uk; marine@crownestatescotland.com; nikki.christie@crownestatescotland.com; carole@ssmo.shetland.co.uk; hnpengineers@btconnect.com
Cc: Queiros J (Joao); Pliatsikas P (Panos)
Subject: Nova Innovations Ltd - Shetland Tidal Array Extension, Bluemull Sound, Shetland - Consultation - Response required by 09 March 2018 - REMINDER

Dear Sir/Madam

Humphries S (Sophie)

From: Helen Croxson <Helen.Croxson@mcga.gov.uk>
Sent: 07 March 2018 13:19
To: MS Marine Renewables
Subject: FW: Nova Innovations Ltd - Shetland Tidal Array Extension, Bluemull Sound, Shetland - Consultation - Response required by 09 March 2018 - REMINDER

Sophie,

Thank you for the opportunity to comment on the Shetland Tidal Array Extension, Bluemull Sound, Shetland

I understand from the original application that all parts of the existing Array are located below the sea surface at a depth of at least 15 metres (below lowest astronomical tide). At the time, the structures were deemed not to pose a risk to the safety of navigation, as vessels large enough to have a draft sufficient to come into contact with a device were unlikely to navigate through the area because of the depth of the water, strong tides and other navigation hazards. Much of the traffic using the Bluemull Sound consisted of small vessels and the location was chosen specifically because no fishing, diving or anchorage were undertaken there.

However, as the traffic study was undertaken in July 2014 and February 2015, things may have changed in the last three years, and I wondered whether there would be some sort of update to the navigation risk assessment at all? I would also expect to see confirmation that the parameters agreed for the existing devices will be applied to the additional device with regards to sufficient under keel clearance for the range of vessels operating in the area.

Advice on Under Keel Clearance can be found on our website at:

<https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping>

I believe that the site falls within the jurisdiction of Shetland Island Council and that their Works Licence is likely required. Confirmation that the Council is content with the proposal would also be useful.

In addition, we would expect the follow conditions/advisories to be applied:

Conditions:

1. The Licencee must ensure that HM Coastguard, in this case nmcccontroller@hmcg.gov.uk, The National Maritime Operations Centre is made aware of the works prior to commencement.
2. The Licencee must notify the UK Hydrographic Office to permit the promulgation of maritime safety information and updating of nautical charts and publications through the national Notice to Mariners system.
3. The Licencee must ensure that 'the works' do not encroach on any recognised anchorage, either charted or noted in nautical publications, within the proposed consent area.
4. Any consented cable/pipeline protection works must ensure existing and future safe navigation is not compromised. The MCA would accept a maximum of 5% reduction in surrounding depth referenced to Chart Datum but under no circumstances should depth reductions compromise safe navigation.

In addition, the following advice should be provided to the applicant to facilitate the proposed works:

1. The site is within port limits and the applicant should gain the approval/agreement of the responsible local navigation authority or the Harbour Authority/Commissioners/Council. They may wish to issue local warnings to alert those navigating in the vicinity to the presence of the works, as deemed necessary.

If you require any further information please let me know.

Kind regards

Helen



Helen Croxson, Offshore Renewables Advisor

Navigation Safety Branch, Bay 2/25

Maritime & Coastguard Agency

Spring Place, 105 Commercial Road, Southampton, SO15 1EG

Tel: 0203 8172426

Mobile: [REDACTED]

Email: Helen.Croxson@mcga.gov.uk

Please note I currently work Tuesdays, Wednesdays and Thursdays.

From: navigation safety

Sent: 05 March 2018 10:44

To: Helen Croxson <Helen.Croxson@mcga.gov.uk>

Subject: FW: Nova Innovations Ltd - Shetland Tidal Array Extension, Bluemull Sound, Shetland - Consultation - Response required by 09 March 2018 - REMINDER

From: Sophie.Humphries@gov.scot [<mailto:Sophie.Humphries@gov.scot>]

Sent: 02 March 2018 08:06

To: FO.Lerwick@gov.scot; hmconsultations@hes.scot; navigation safety <navigationsafety@mcga.gov.uk>; planning.scotland@rspb.org.uk; Planning.Dingwall@sepa.org.uk; renewables@sff.co.uk; MARINEENERGY@snh.gov.uk; Val.Ferguson@transport.gov.scot; marineplan@uhi.ac.uk; marine@crownestatescotland.com; nikki.christie@crownestatescotland.com; carole@ssmo.shetland.co.uk; hnpengineers@btconnect.com

Cc: Joao.Queiros@gov.scot; Panos.Pliatsikas@gov.scot

Subject: Nova Innovations Ltd - Shetland Tidal Array Extension, Bluemull Sound, Shetland - Consultation - Response required by 09 March 2018 - REMINDER

Dear Sir/Madam

Further to my e-mail of 22 February 2018, a gentle reminder that this consultation will end on **Friday, 9th March 2018**

If a response is not received by this date then a 'nil return' will be assumed.

Northern Lighthouse Board

Your Ref: 06642
Our Ref: GB/OPS/ML/O8_03_259

Ms Sophie Humphries
Marine Renewables Casework Officer
Marine Scotland
Scottish Government
Marine Laboratory
375 Victoria Road
ABERDEEN
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84 George Street
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26 February 2018

Dear Sophie

MARINE (SCOTLAND) ACT 2010, PART 4 MARINE LICENSING NOVA INNOVATIONS LTD – SHETLAND TIDAL ARRAY EXTENSION AT BLUEMULL SOUND, YELL, SHETLAND

Thank you for your e-mail correspondence dated 22 February 2018 regarding the application submitted by **Nova Innovations Ltd** to extend their existing tidal array to six turbines at Bluemull Sound, Yell, Shetland.

Northern Lighthouse Board has no objection to the proposed extension to six tidal devices and our previously provided recommendations Ref: O8_03_151, which are reiterated below, are still relevant and should remain in place for the duration of the project.

Northern Lighthouse Board has no requirement to navigationally mark the six Nova 100kW tidal turbine devices however:-

- As previously required all turbines must be installed at a depth to ensure at least 15 metres minimum clearance above the turbine blades relative to lowest astronomical tide (LAT).
- During all phases of work adequate notice should be given to the mariner in consultation with Shetland Ports and Harbours. We would recommend that such Notices to Mariners or Local Radio Navigation Warnings clearly state the nature and duration of the works.
- Whilst the devices are in their operation/maintenance phase, the condition of the devices should be actively monitored, and a contingency plan put in place to respond to any reported catastrophic failure events which could see the devices or parts of the devices breaking loose and coming to the surface as a buoyant hazard. This should include the transmission of local Radio Navigation Warnings.
- We would require that the Hydrographic Office be informed of the turbine(s) location and minimum depth of water in order that the Admiralty Chart 3292 is updated to give information of the installation.



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

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Marine Scotland

26 February 2018

Yours sincerely



Peter Douglas
Navigation Manager

Humphries S (Sophie)

From: Pauline McGrow <Pauline.McGrow@ryascotland.org.uk>
Sent: 27 February 2018 10:27
To: Humphries S (Sophie)
Subject: RE: Nova Innovations Ltd - Shetland Tidal Array Extension, Bluemull Sound, Shetland - Consultation - Response required by 09 March 2018

Hi Sophie,

I write to inform you that RYA Scotland has no comment that it wishes to make on this application.

Kind Regards

Pauline

Pauline McGrow
Senior Administrator
Tel: 0131 317 4611

Royal Yachting Association Scotland
T: 0131 317 7388
E: pauline.mcgrow@ryascotland.org.uk



RYA Scotland, Caledonia House, 1 Redheughs Rigg, South Gyle, Edinburgh, EH12 9DQ
T: 0131 317 7388, Fax: 0844 556 9549



From: Sophie.Humphries@gov.scot [mailto: Sophie.Humphries@gov.scot]
Sent: 22 February 2018 13:34
To: MARINEENERGY@snh.gov.uk; navigationsafety@mcga.gov.uk; navigation@nlb.org.uk; planning.scotland@rspb.org.uk; FO.Lerwick@gov.scot; Pauline McGrow <Pauline.McGrow@ryascotland.org.uk>; Val.Ferguson@transport.gov.scot; renewables@sff.co.uk; fiona.read@whales.org; ryan.leask@shetland.gov.uk; hnpengineers@btconnect.com; carole@ssmo.shetland.co.uk; hmconsultations@hes.scot; planning.control@shetland.gov.uk; Planning.Dingwall@sepa.org.uk; sarah.dolman@whales.org; nikki.christie@crownestatescotland.com; marine@crownestatescotland.com; marineplan@uhi.ac.uk

2 March 2018

Sophie Humphries
Marine Scotland
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

By email only to: ms.marinerenewables@gov.scot

Dear Ms Humphries

MARINE (SCOTLAND) ACT 2010, PART 4 MARINE LICENSING
Shetland Tidal Array Extension - from 5 to 6 turbines
Bluemull Sound, Shetland

Thank you for your consultation email which SEPA received on the 22 February 2018.

To assist with streamlining the consultation process, we now focus our site specific advice where we can add best value in terms of enabling good development and protecting Scotland's environment. On your reason for consultation list/sheet, you have not completed the specific reason for consulting us, and the scale and nature of the development falls below that on which we provide site-specific advice.

We do not provide site specific advice on Marine Licence consultations. Instead, please refer to our standing advice on marine consultations within guidance document [SEPA standing advice for The Department of Energy and Climate Change and Marine Scotland on marine consultations](#).

If, after consulting this guidance, you still require our comment on some site specific issue which is not adequately dealt with by the standing advice, then we would welcome the opportunity to be re-consulted. Please note that the site specific issue on which you are seeking our advice must be clearly indicated in the body of the consultation email or letter.

Further information on our consultation arrangements generally can be found in [How and when to consult SEPA](#).

If you have any queries relating to this letter, please contact me by telephone on 01224 266609 or by e-mail to planning.aberdeen@sepa.org.uk.

Yours sincerely

Clare Pritchett
Senior Planning Officer
Planning Service



Chairman
Bob Downes

Chief Executive
Terry A'Hearn

SEPA Aberdeen Office
Inverdee House, Baxter Street
Torry, Aberdeen AB11 9QA
tel 01224 266600 fax 01224 896657

www.sepa.org.uk • customer enquiries 03000 99 66 99

Humphries S (Sophie)

From: ryan.leask@shetland.gov.uk
Sent: 23 February 2018 09:33
To: MS Marine Renewables
Subject: Nova Innovations Ltd - Shetland Tidal Array Extension, Bluemull Sound, Shetland

Dear Sophie,

Shetland Islands Council are currently dealing with a Works Licence application for this development.

Details can be found using the reference code 2018/002/WL at:

<https://pa.shetland.gov.uk/online-applications/>

As the application is in progress the Council has no comments in regard to the Marine Licence.

Kind regards

Ryan Leask
Marine Planning Officer
Shetland Islands Council

Our values: excellent service, taking personal responsibility, working well together

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Scottish Natural Heritage Dualchas Nàdair na h-Alba

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

Sophie Humphries
Marine Scotland
Marine Laboratory
PO Box 101
375 Victoria Road
Aberdeen
AB11 9DB

Your ref: 06642

Our ref: CNS/REN/TP/Shetland –
Bluemull Sound – Nova Innovation – 6
Tidal Turbine Array/CLC149573

Date: 2 March 2018

By email only:

MS.MarineRenewables@gov.scot

Dear Sophie,

SNH ADVICE – MARINE LICENCE FOR THE DEPLOYMENT AND OPERATION OF THE SHETLAND TIDAL ARRAY BY NOVA INNOVATION LTD - 6 TURBINES

Thank you for consulting us on 22 February 2018 for the marine licence for the Shetland tidal array by Nova Innovation Ltd at Bluemull Sound. This current proposal includes the deployment of an additional single tidal turbine increasing the total number of turbines from 5 to 6 within the array.

Background

We provided screening advice for a Shetland Islands Council marine works licence and a marine licence with respect to this proposal on 19 December 2017. We subsequently met with Nova Innovation, MS LOT and Shetland Islands Council on 26 January 2018 to discuss this proposal and ongoing monitoring for the Shetland Tidal Array.

Following previous advice (letters of 24 June 2013, 27 August 2015, 26 January 2016) with regard to the licences and discussions at the recent meeting, and taking account of the documents provided in support of the 6 turbine work licence application, we have updated our advice to take account of this proposed additional turbine, notably with respect to collision risk.

We provided updated collision risk assessments for the 6 turbine array to inform this marine licence and related Shetland Islands Council (SIC) works licence application (9 February 2018). We include an assessment for the Bluemull and Colgrave Sounds proposed SPA (pSPA) for breeding red-throated diver qualifying interests. This site has been proposed as a pSPA since the consent of the 5 turbine array and therefore is a relevant consideration in our assessment for the 6 turbine proposal. We note and welcome that the advice we provided on 9 February 2018 has been incorporated into the latest *Shetland Tidal Array Extension – Environmental Assessment Report* submitted by Nova for this marine licence.

Advice

We consider that the deployment and operation of this array of 6 tidal turbines and associated infrastructure can be implemented without serious adverse effects on natural heritage interests. However, the proposal requires consideration of natural heritage issues of international and national importance. Appendices A, B and C include our detailed advice.

The proposed array is likely to have a significant effect on qualifying interests of:

- Yell Sound Coast Special Area of Conservation (SAC) (harbour seals; see Appendix A)
- Hermaness, Saxa Vord and Valla Field Special Protection Area (SPA) and
- Bluemull and Colgrave Sounds proposed SPA (pSPA) (see Appendix B).

We have concluded that the project **will not have an adverse effect on site integrity for these Natura sites.**

In addition, we advise that a European Protected Species (EPS) will be required with respect to relevant cetaceans for the project construction phase (see Appendix C – Advice on natural heritage interests). We have considered other relevant marine species (see Appendix C) and have concluded that significant adverse effects can be avoided.

Environmental Monitoring and Mitigation Plan (EMMP)

We refer you to our most recent detailed advice relating to the EMMP (letter of 15 August 2017) for the previous works and marine licence applications. This advice remains relevant for the current 6 turbine array application. We recommend continued liaison between Marine Scotland and SIC in the formation of licence conditions, notably with respect to details of monitoring requirements within the EMMP.

Further information and advice

We hope this advice is helpful. If further information or advice is required please contact me in the first instance: tracey.begg@snh.gov.uk or 01876 580236.

Yours faithfully

Dr Tracey Begg
Policy & advice officer - Marine energy and seaweed harvesting

Cc marine.planning@shetland.gov.uk

APPENDIX A

NOVA INNOVATION TIDAL ARRAY, BLUEMULL SOUND, SHETLAND

HABITATS REGULATIONS APPRAISAL – SPECIAL AREA OF CONSERVATION (SAC)

1. Where a plan or project could affect a Natura site, the Habitats Regulations require the competent authority – 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.

2. 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.

3. 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).

4. SACs relevant under this HRA can be determined by (a) species observed at the site during site survey, (b) the distance between SACs and the proposed development site, and (c) the foraging range of species designated as qualifying interests. Consequently, we recommend that the only SAC relevant for consideration under HRA is Yell Sound Coast SAC.

Yell Sound Coast SAC

5. Yell Sound Coast SAC is designated for harbour seals and otters. The proposal is approximately 28km from the nearest part of the SAC.

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

6. The proposal is not directly connected with or necessary for the conservation management of the Yell Sound Coast SAC.

<p>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?</p>

7. The conservation objectives of the site are:

(i) to avoid deterioration of the habitats of the qualifying species or (ii) significant disturbance to the qualifying species, 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 qualifying species 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 habitat supporting the species,
- (vi) Structure, function and supporting processes of habitats supporting the species,
- repeat of (ii) No significant disturbance of the species

8. Otters designated as qualifying interests of the Yell Sound Coast SAC are unlikely to have connectivity with the proposal due to the distances and depths involved. Consequently, we advise that there is no likely significant effect upon otters and no further consideration of this species is required within HRA.
9. This distance separating the proposed development site and Yell Sound Coast SAC is well within the foraging range of harbour seals and we therefore advise that there is a **likely significant effect upon harbour seals as a qualifying feature of the Yell Sound Coast SAC**. As a consequence, Marine Scotland and SIC, as the competent authorities, are required to carry out appropriate assessments (AA) in view of the site's conservation objectives for this qualifying interest. Impacts upon harbour seals are of particular concern due to declining populations, including a condition status of 'unfavourable declining' for the Yell Sound Coast SAC. **We provide an appraisal of proposal below, in relation to seals as a qualifying feature of the SAC.**

Step 3: Can it be ascertained that the proposal will not adversely affect the integrity of the SPAs either alone or in combination with other plans or projects?

10. Potential sources of impact upon harbour seals are discussed in turn:

Potential disturbance and displacement of seals:

11. The use of gravity-bases, as opposed to rock-drilling, greatly reduces the potential for disturbance by limiting the sources of anthropogenic noise and allowing more rapid deployment of devices. The relatively small size of devices and the vessels therefore required for deployment and maintenance works also limit the potential for disturbance. In addition, the construction programme involves the deployment of devices spaced over an extended period of time, further limiting the potential for any sustained source of disturbance. Overall, we advise that potential disturbance of harbour seals is not of a scale or severity that would lead to an adverse effect on site integrity.

Potential collision with operational tidal turbines:

12. Table 1 below contains the collision risk estimates from the updated ERM model with a 98% avoidance rate applied for the harbour seal qualifying interest from Yell Sound Coast SAC for which LSE was previously identified.

Table 1: Collision risk estimates for the harbour seal qualifying interest of Yell Sound Coast SAC

Species	Updated ERM model with updated turbine parameters – BREEDING SEASON (June to August)	Updated ERM model with updated turbine parameters – ALL YEAR	Updated ERM model with updated turbine parameters – Seals-at-sea density (availability accounted for)
Harbour seal	0.17	3.96	4.00

13. The rate of collision predicted from the updated modelling during the breeding season is very similar to what was previously calculated (0-1 seal per year) and the current PBR for harbour seals for the Shetland Seal Management Unit ¹ is 20 individuals. Furthermore, we are mindful of the underwater camera monitoring undertaken for the deployed turbines in Bluemull Sound for which no collision or near misses were detected during operational periods to date, and the ongoing commitment by Nova Innovation through their EMMP for further collision risk monitoring together with the emergency shutdown protocol in the event of any collision.
14. Through consideration of the above points, our advice is that there will be **no adverse effect on the integrity of the Yell Sound Coast SAC** according to its conservation objectives.
15. Cumulative / in-combination assessment: We advise that, based on our appraisal of this proposal and our knowledge of other developments/activities in Shetland, any potential cumulative and in combination effects will not adversely affect the integrity of this SAC.

¹ <http://www.gov.scot/Topics/marine/Licensing/SealLicensing>

APPENDIX B

NOVA INNOVATION TIDAL ARRAY, BLUEMULL SOUND, SHETLAND

HABITATS REGULATIONS APPRAISAL (HRA) – SPECIAL PROTECTION AREA (SPA)

See Appendix A for information on the HRA process and role of the competent authority.

SPAs relevant under this HRA can be determined by (a) species observed at the site during site survey, (b) the distance between SPAs and the proposed development site, (c) the foraging range and diving ability of birds designated as qualifying species and (d) the scale of the proposal. Relevant SPAs for consideration under HRA are Hermaness, Saxa Vord and Valla Field SPA and Bluemull and Colgrave Sounds proposed SPA (pSPA).

1. Hermaness, Saxa Vord and Valla Field SPA

1. Hermaness, Saxa Vord and Valla Field SPA is designated for a suite of breeding-bird interests. The proposal is approximately 3km from the nearest part of the SPA.

Step 1: Is the proposal directly connected with or necessary for the conservation management of the SPA?

2. The proposal is not directly connected with or necessary for the conservation management of the Hermaness, Saxa Vord and Valla Field SPA.

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

3. The conservation objectives for Hermaness, Saxa Vord and Valla Field SPA are:

(i) to avoid deterioration of the habitats of the qualifying species or (ii) significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained;

and to ensure for the qualifying species 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 habitat supporting the species,

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

repeat of (ii) No significant disturbance of the species

4. Qualifying species for Hermaness, Saxa Vord and Valla Field SPA are as follows
(*indicates assemblage qualifier only):

- a. Fulmar (*Fulmarus glacialis*)*
- b. Gannet (*Morus bassana*)
- c. Great skua (*Catharacta skua*)
- d. Guillemot (*Uria aalge*)*
- e. Kittiwake (*Rissa tridactyla*)*
- f. Puffin (*Fratercula arctica*)
- g. Red-throated diver (*Gavia stellata*)
- h. Shag (*Phalacrocorax aristotelis*)*

i. Seabird assemblage

5. The conservation objectives for which consideration is required are (ii) and (iii) as listed above. The other objectives require no further consideration due to the distance between the SPA and the proposed development site and/or the small scale of the proposal.
6. Conservation objective (ii) is concerned with ensuring that there is no significant disturbance of species designated as qualifying interests of the site, such as through vessel activity or other cause of bird displacement. Although the proposed development would be within the foraging range of all of the above listed breeding populations for Hermaness, Saxa Vord and Valla Field SPA, we advise that there is no likely significant effect in this regard, due to the small scale of the development, the expected limited duration of installation procedures and the distance from nesting sites.
7. In this case, conservation objective (v) is relevant to the risk of collision between birds and operational turbines. Consequently it is only relevant to birds with diving capabilities that may place them at risk of interaction with the device. **We advise that there is a likely significant effect for gannets, puffins, red-throated divers, guillemots and shags from Hermaness, Saxa Vord and Valla Field SPA.**

2. Bluemull and Colgrave Sounds pSPA

9. Bluemull and Colgrave Sounds pSPA is designated for breeding red throated diver qualifying interests. The proposal is within the pSPA.

Step 1: Is the proposal directly connected with or necessary for the conservation management of the pSPA?

10. The proposal is not directly connected with or necessary for the conservation management of Bluemull and Colgrave Sounds pSPA.

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

11. The draft conservation objectives for Bluemull and Colgrave Sounds pSPA are:

To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, subject to natural change, thus ensuring that the integrity of the site is maintained in the long-term and it continues to make an appropriate contribution to achieving the aims of the Birds Directive for each of the qualifying species.

This contribution will be achieved through delivering the following objectives for each of the site's qualifying features:

- a) Avoid significant mortality, injury and disturbance of the qualifying features, so that the distribution of the species and ability to use the site are maintained in the long-term;
- b) To maintain the habitats and food resources of the qualifying features in favourable condition.

12. Conservation objective a) is concerned with ensuring that there is no significant mortality, injury and disturbance of species designated as qualifying interests of the site, such as through collisions, vessel activity or other cause of bird displacement. In this case, there is risk of collision between red-throated divers and operational turbines that may place them at risk of interaction with the device.

13. For conservation objective b) although the proposed development would be within the foraging range of the breeding population for Bluemull and Colgrave Sounds pSPA, we advise that there is no likely significant effect in this regard, due to the small scale of the development relative to available habitats and food resources within the pSPA.

14. We advise that due to the risk of collisions with operational turbines **there is a likely significant effect for breeding red-throated from Bluemull and Colgrave Sounds pSPA.**

15. As a consequence, Marine Scotland and SIC, as the competent authorities, are required to carry out appropriate assessments (AA) in view of the site's conservation objectives for breeding red-throated diver. **We provide an appraisal of potential collision impacts below.**

Step 3: Can it be ascertained that the proposal will not adversely affect the integrity of the SPAs either alone or in combination with other plans or projects?

Collision risk assessment

16. Collision risk impacts for the following European sites and their qualifying interests for which a Likely Significant Effect (LSE) was previously identified are outlined below (Table 1).

Table 1: Bird interests and sites for which LSE is identified with respect to collision risk

European site	Qualifying interest(s)
Hermaness, Saxa Vord and Valla Field SPA	Atlantic puffin
	Red-throated diver
	Northern gannet
	Common guillemot
	European shag
Bluemull and Colgrave Sounds pSPA	Red-throated diver

17. We consider that our original advice still remains relevant (letter dated 24 June 2013), except where it has been updated with respect to the project-specific Environmental Mitigation and Monitoring Plan (EMMP). We refer you to our most recent detailed advice relating to the EMMP (letter of 15 August 2017).

**1. Hermaness, Saxa Vord and Valla Field SPA
Bluemull and Colgrave Sounds pSPA**

18. Table 2 below contains the collision risk estimates from the updated ERM model with a 98% avoidance rate applied for the SPA / pSPA breeding bird species for which LSE is identified. We have manually extracted the monthly densities for gannet and shag in order to be able to calculate the breeding season more accurately. We have not undertaken this for puffin, red-throated diver or common guillemot, and so the breeding season for these three species is taken as March to October, reflecting the way in which the survey data was presented to us.

Table 2: Collision risk estimates for SPA qualifying interests

Species	Updated ERM model with updated 6 turbine parameter – BREEDING SEASON	Updated ERM model with updated 6 turbine parameter – ALL YEAR
Atlantic puffin	1.45	1.36
Red-throated diver	0.13	0.15
Northern gannet	0.00	0.00
Common guillemot	0.37	0.36
European shag	4.87	11.25

19. For all of the above mentioned species, the collision risk estimates (using a 98% avoidance rate) are of a magnitude similar to previous predictions. **We are therefore content that these collision rates will not lead to an adverse effect on site integrity for Hermaness, Saxa Vord and Valla Field SPA and Bluemull and Colgrave Sounds pSPA.**

20. Cumulative / in-combination assessment: We advise that based on our appraisal of this proposal and our knowledge of other developments/activities in Shetland, any potential cumulative and in-combination effects will not adversely affect the integrity of these SPAs/pSPAs.

APPENDIX C

NOVA INNOVATION TIDAL ARRAY, BLUEMULL SOUND, SHETLAND

ADVICE ON NATURAL HERITAGE INTERESTS

Below we provide advice on the following natural heritage interests:

- Protected species
- Marine Protected Area qualifying interests

1. Protected species

European Protected Species (EPS)

European Protected Species (EPS) are species listed in Annex IV of the Habitats Directive and are afforded protection under The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) and the Conservation of Offshore Marine Habitats and Species Regulations 2017. Marine Scotland provides guidance on the protection of Marine European Protected Species from injury and disturbance for Scottish Inshore Waters².

EPS – Cetaceans

On 19 January 2018 we were consulted by Marine Scotland regarding an extension to the EPS licence (expiry date 23 January 2018) for the array. We advised that it would be appropriate to issue a short extension to the licence in advance of gaining a better understanding about the results of the monitoring, the potential for activities causing disturbance and also for any further deployment activity associated with the 6 turbine array.

Further information available from the documents submitted for the licence allows us to provide further advice with respect to EPS.

- Disturbance during construction

The construction programme involves the phased deployment of infrastructure and turbines: cable installation Q3, 2019; turbine 4 installation, Q3, 2019; turbines 5 and 6, Q2, 2020; reconfiguration of array relocating turbines 4,5 and 6, Q1, 2021.

There is the potential for disturbance from installation works such as cable and turbine installation and associated vessel movements. However, installation works will be temporary and noise levels are likely to be relatively low and unlikely to cause significant disturbance.

The use of gravity-bases, as opposed to rock-drilling, greatly reduces the potential for disturbance, by limiting the sources of anthropogenic noise and allowing more rapid deployment of devices. The relatively small size of turbines and the vessels therefore required for deployment works also limit the potential for disturbance.

² <http://www.gov.scot/Resource/0044/00446679.pdf>

Overall, we advise that installation works including cable and turbine installation / relocation and associated vessel activities could potentially cause disturbance to cetaceans and **we advise that an EPS licence for all relevant cetacean species with respect to disturbance during construction is required.**

We conclude that for the reasons outlined above, it is unlikely that there will be any significant disturbance, and project **will not be detrimental to the maintenance of the populations of relevant cetacean species at a favourable conservation status in their natural range.**

We recommend good practice should be applied during all marine and coastal works by following the guidelines associated with the Scottish Marine Wildlife Watching Code (SMWCC)³.

- Collision with operational turbines

There is a potential for injury and mortality due to collision risk with the operational turbines. Due to the current lack of monitoring data from operational tidal arrays, the behaviour of marine mammals around tidal turbines is uncertain and the collision risk estimated.

Table 3 below contains the collision risk estimates from the updated ERM model with a 98% avoidance rate applied for the other marine animal species found in Bluemull Sound. Due to the way the survey information has been supplied we have used an 'all year' density figure for all three species presented in the table, apart from grey seal where we have manually extracted the monthly densities to be able to calculate the breeding season more accurately.

Table 3: Collision risk estimates for marine mammals recorded in the Bluemull Sound

Species	Updated ERM model with updated turbine parameter – BREEDING SEASON	Updated ERM model with updated turbine parameter – ALL YEAR	Updated ERM model with updated turbine parameters – SCANSII (Area J) (Availability accounted for)
Grey seal	2.85	7.15	N/A
Harbour porpoise	N/A	2.20	1.74
Minke whale	N/A	0.16	1.06

We have considered the updated collision risk estimates against the population estimates for the relevant management units for harbour porpoise (1-2 per year from a population of 228,000) and minke whale (0-1 per year from a population of 229,000).

The level of predicted collisions for cetaceans is low and **will not be detrimental to the maintenance of the populations of relevant cetacean species at a favourable conservation status in their natural range.**

³ <https://www.nature.scot/professional-advice/land-and-sea-management/managing-coasts-and-seas/scottish-marine-wildlife-watching-code>

We advise that an EPS licence for the operational phase is not required, unless through monitoring the modelled predictions and reality indicated a need to consider this further.

The EMMP should include sufficient detail with respect to ongoing monitoring as agreed with Marine Scotland and SIC. This monitoring should focus on gathering data on the behaviour of marine mammals in close proximity to the tidal turbines. Monitoring results will allow review to inform our EPS advice for cetaceans with respect to future licensing requirements.

EPS - Otters

Otters are EPS commonly seen in various parts of Bluemull Sound. We provided advice in relation to otters for earlier licence applications (letter of 4 June 2013). This advice remains relevant for this application and as a result, we advise that there is no requirement for further EPS licensing considerations in relation to otters.

Basking sharks

Basking sharks receive protection through the Wildlife and Countryside Act 1981 (as amended, including the Wildlife and Natural Environment (Scotland) Act 2010), with licensing requirements similar to EPS.

Although there are no established population estimates for basking sharks, they are a very wide-ranging species. There has been only one basking shark observation for this development since monitoring began in 2010, from the land based or underwater monitoring. Consequently, the applicant will not require a basking shark licence to address potential disturbance during installation or operational collision risk. **We consider that the Shetland Tidal Array will not have a negative impact on the conservation status of basking sharks.**

Seals

Seals as a qualifying feature of SACs are addressed in Appendix A. However, there is potential for impact upon harbour seal and grey seal interests not connected with Natura sites. Seals are protected under the Marine (Scotland) Act 2010. Impacts upon harbour seals are of particular concern due to their declining status across UK waters. Potential impact types are discussed in turn below:

- Potential disturbance and displacement of seals:

For reasons described in relation to the HRA for harbour seals in Appendix A, for both harbour and grey seals not connected to Natura sites we advise that potential disturbance would not be of a scale or severity of particular concern. We advise on the need for monitoring to improve our knowledge and understanding as to whether any patterns in the distribution and behaviour of seals in Bluemull Sound varies concurrently with the presence and or operation of the turbines. Also, good-practice should be applied during all marine and coastal works by following the guidelines associated with the SMWCC.

- Potential collision with operational tidal turbines:

The outcome of collision risk modelling for harbour seals is detailed in Appendix A. As grey seals also frequently occur in Bluemull Sound, collision risk estimates for this species have been generated (Table 3). The collision risk estimate (between 3-7 animals per year) is within the PBR limits (239) for the Shetland Seal Management Unit. **We are therefore content that these rates of collision do not necessitate mitigation for wider seal interests, as previously advised.**

Black guillemots

Black guillemots are the most frequently occurring non-SPA bird species recorded at the development site. The species is also a feature of the nearby Fetlar to Haroldswick nature conservation Marine Protected Area (NC MPA).

- Potential disturbance and displacement:

Due to the small scale of the development compared to the availability of suitable foraging and loafing habitat for black guillemots, disturbance away from the proposed development site is unlikely to be important at the population level.

- Potential collision with operational tidal turbines:

Table 4 below contains the collision risk estimates from the updated ERM model with a 98% avoidance rate applied for black guillemot.

Table 4: Collision risk estimates for black guillemot

Species	Updated ERM model with updated turbine parameter – BREEDING SEASON	Updated ERM model with updated turbine parameter – ALL YEAR
Black guillemot	16.27	27.72

Using Seabird 2000 and other recent counts, we consider that Shetland has a regional population of 15,329 black guillemots. If the higher number of predicted collisions is used (28), then this would equate to a small percentage - 0.2% of the population each year. **We consider that the Shetland Tidal Array will not have a negative impact on the conservation status of black guillemot.**

Humphries S (Sophie)

From: Fiona Read <fiona.read@whales.org>
Sent: 16 March 2018 17:11
To: Humphries S (Sophie); MS Marine Renewables
Cc: Sarah Dolman
Subject: RE: Nova Innovations Ltd - Shetland Tidal Array Extension, Bluemull Sound, Shetland - Consultation - Response required by 09 March 2018

Dear Sophie,

Thank you for including WDC in the Shetland Tidal Array Extension at Bluemull Sound consultation.

Although we have concerns regarding the impact of tidal devices on harbour seals and cetaceans we note that with the lack of piling driving, the revised collision models and the underwater video monitoring at the site, our concerns are reduced for the present development. We request that the 6th turbine is only consented once there is further evidence to prove that the addition of turbines 4 and 5 have no impact marine mammals, i.e., there are no collisions. We are pleased to note that the developers are committed to continue the underwater monitoring as a condition of consent.

WDC request to be involved in the development of the revised PEMP.

We would be happy to discuss any of these comments further.

Best wishes,

Fiona

Fiona Read
Policy officer
End Bycatch

Telephone: [REDACTED]
whales.org

**30 YEARS OF PROTECTING
WHALES AND DOLPHINS**

From: Sophie.Humphries@gov.scot [mailto: Sophie.Humphries@gov.scot]
Sent: 22 February 2018 13:34
To: MARINEENERGY@snh.gov.uk; navigationsafety@mcga.gov.uk; navigation@nlb.org.uk; planning.scotland@rspb.org.uk; FO.Lerwick@gov.scot; Pauline.McGrow@ryascotland.org.uk; Val.Ferguson@transport.gov.scot; renewables@sff.co.uk; Fiona Read; ryan.leask@shetland.gov.uk; hnpengineers@btconnect.com; carole@ssmo.shetland.co.uk; hmconsultations@hes.scot; planning.control@shetland.gov.uk; Planning.Dingwall@sepa.org.uk; Sarah Dolman; nikki.christie@crownestatescotland.com; marine@crownestatescotland.com; marineplan@uhi.ac.uk
Cc: Joao.Queiros@gov.scot; Panos.Pliatsikas@gov.scot
Subject: Nova Innovations Ltd - Shetland Tidal Array Extension, Bluemull Sound, Shetland - Consultation - Response required by 09 March 2018

Dear Sir/Madam

MARINE (SCOTLAND) ACT 2010, PART 4 MARINE LICENSING

06642 – Nova Innovations Ltd – Shetland Tidal Array Extension – Bluemull Sound, Shetland

Central Latitude Coordinates	Central Longitude CoOrdinates
60°41.976'N	0°58.999'W

(WGS84)