[redacted]

**From:** [redacted]
**Sent:** 20 July 2016 08:40
**To:** [redacted]
**Cc:** MS Marine Renewables; [redacted]
**Subject:** RE: ONE WEEK REMINDER Consultation on BOWL Post-consent Development Specification and Layout Plan, Offshore Transmission Works (DSLP-OfTW), by 26th July

Dear Jessica,

Thank you for your email. Having consulted the cover letter and DSLP-OfTW, the Chamber has no further comments.

Best regards,

Robert

**Robert Merrylees**
Policy Advisor & Analyst

**UK Chamber of Shipping**
30 Park Street, London, SE1 9EQ

DD +44 (0) 20 7417 2843
rmerrylees@ukchamberofshipping.com
www.ukchamberofshipping.com

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**From:** [redacted]
**Sent:** Wednesday, July 20, 2016 8:08 AM
**To:** [redacted]
**Subject:** ONE WEEK REMINDER Consultation on BOWL Post-consent Development Specification and Layout Plan, Offshore Transmission Works (DSLP-OfTW), by 26th July

**ELECTRICITY ACT 1989**
*The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000*

**MARINE (SCOTLAND) ACT 2010 & MARINE AND COASTAL ACCESS ACT 2009, PART 4 MARINE LICENSING**
*The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended*

Dear Sir/Madam

**ONE WEEK REMINDER**

The consultation deadline for providing comments on the Beatrice Offshore Windfarm Ltd ("BOWL") 'Development Specification and Layout Plan (Offshore Transmission Works)' ("DSLP-OfTW") post-consent plan is due to close next Tuesday, the 26th June 2016. I would be grateful if you would provide any comments you may have by the **26th June 2016**.

If you are unable to meet this deadline, please contact us as soon as possible to arrange an extension to the consultation period. If you have no comments to make please submit a "nil return" response.

Yours faithfully

Scottish Natural Heritage
Dualchas Nàdair na h-Alba
All of nature for all of Scotland
Nàdar air fad airson Alba air fad

JNCC
Joint Nature Conservation Committee

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

CNS REN OSWF Beatrice

For the attention of: Jessica Drew

16 August 2016

**BEATRICE OFFSHORE WIND FARM**
**SNH & JNCC COMMENTS ON CABLE PLAN**

Thank you for consulting us over the cable plan for Beatrice offshore wind farm. This plan relates to design, layout and construction methods for the export cable (and link cable) between the Beatrice offshore substation platforms and the cable landfall point in Spey Bay, 1.5km west of Port Gordon (and just west of the Tennachy Burn / Burn of Tynet).

SNH has met twice with BOWL to discuss the offshore cable works, 11 November 2015 and 31 May 2016. These meetings have been very helpful to understand the proposed work, including details of the installation methods and information from geophysical and geotechnical surveys. While JNCC were not involved in these discussions, this current response includes their comments and is provided on behalf of both statutory nature conservation bodies.

**Background**

The cable plan is being submitted to discharge condition 3.2.2.10 of the marine licence for the transmission works, however, it also includes information which can be used to discharge the specification and layout plan for these works (condition 3.2.2.6) and the construction method statement (condition 3.2.2.4). Condition 3.2.3.8 on horizontal directional drill (HDD) or direct pipe is also highly relevant:

> The Licensee must ensure the seaward exit point of the HDD will be located as far offshore as practicable towards the depth of closure; the landward exit point of the HDD will be located onshore of the high-water mark, which may move landward due to coastal retreat; and the cables will be suitably buried between the seaward exit of the HDD and the depth of closure (the depth of water beyond which annually significant wave events will cease to contribute to beach sediment supply and morphological processes).

This has been a key focus of the current discussion between SNH and BOWL, where we've reached agreement on "depth of closure" and are in the process of addressing cable burial.

**SNH advice at previous meetings**

At the meeting of 11 November 2011, we agreed that "depth of closure" in Spey Bay (the point at which waves cease to exert an influence) is achieved in water depths of ~6m. Ideally, the cable "pop out" (its emergence following HDD or direct pipe) would be in these deeper waters beyond the reach of any wave action. However, as discussed with BOWL, it's not always possible to achieve this due to the practicalities of HDD (or direct pipe). Much depends on the nature of the sediment, how difficult it is to bore through, the risk of hitting boulders and the risk of tunnel collapse.

So it is possible that the Beatrice cable may need to pop out closer to shore in areas still subject to wave action. This being the case, it is important to consider the feasibility of cable burial and the risk of any re-exposure over time. In our advice of 18 November 2011, we indicated that pop out in water depths of ~4m would not, if sufficiently evidenced, present us with major concerns. However, we noted the risk of popping out in water shallower than this – please see **Appendix A** for further detail.

**Information in the cable plan**

Unfortunately, the submitted plan does not clearly state the design envelope for the Beatrice export cable nor confirm the anticipated water depth at pop out. Our reading of the plan indicates that pop out could be as close to shore as 250m, and perhaps in water depths of only 1-2m (paragraphs 5.2.4, 5.3.4 and 9.3.2). This is considerably shallower than what we'd been discussing previously.

We therefore request that BOWL defines the "worst case" for assessment, with clear statements on the minimum distance the cable might pop out from shore and the minimum water depth at this point. As previously advised, it will also be necessary for BOWL to provide an adequate risk assessment considering the cable burial and risk of re-exposure:

> We would be looking for confirmation not only that the cable can be buried to sufficient depth following pop out, but also that this burial can be maintained over the lifespan of the project, factoring in storm events and any longer-term seabed profile changes (such as those associated with ongoing erosion and sea-level rise).

As it stands, chapter 8 of the cable plan does not provide this information. In the high energy environment of Spey Bay, we believe that a 0.5m burial depth might not be sufficient, particularly (but not solely) if pop out is close to shore in the shallower water. We also note that the material infilling the cable trench may be less consolidated than the surrounding sediment and therefore more readily quarried by waves.

**Further information**

There will need to be further discussion around the relevant conditions (particularly 3.2.3.8) to establish if these can be discharged on the basis of the submitted plan. In **Appendix B**, we indicate the information we need to understand the "worst case" for the HDD (or direct pipe) and outline the issues that need to be addressed in the cable burial risk assessment. We also include information on coastal erosion in Spey Bay, illustrated in **Appendix C**.

In **Appendix B** we discuss the risk of impacts to Atlantic salmon, a qualifying interest of the River Spey Special Area of Conservation (SAC), and where we advise mitigation will be needed if pop out is going to take place close to shore.

Finally, if you have any queries or comments in relation to this advice, please don't hesitate to get in touch.

Yours sincerely,

**Catriona Gall**

Marine Renewables Casework Adviser (Offshore Wind)
SNH Policy & Advice

cc. Sarah Canning, JNCC

**APPENDIX A**

**SNH ADVICE ON CABLE WORKS, 18 November 2015**

**From:** [redacted]

**Sent:** 18 November 2015 17:05

**To:** [redacted]

**Cc:** [redacted]

**Subject:** SNH comments on BOWL export cable works

Dear [redacted],

Thank you for arranging a very useful meeting last week to discuss proposals for the BOWL export cable and associated HDD works.

We agreed to provide you with some key comments from SNH on this work, in relation to Spey Bay SSSI, in order to inform your upcoming discussions with the cable contractors.

In this regard, our main area of interest is around the cable HDD – the confirmed water depth for HDD 'pop out' and the confidence you have in the cable burial from this 'pop out' point offshore.

Your ES modelling indicated that the 'safest' option for HDD pop out in Spey Bay is at a water depth of ~6m, well beyond any wave-base action. At the meeting we discussed pop out closer to shore at ~4m water depth where cable burial should still be possible.

SNH's key requirement will be to see your risk assessment of the HDD works and associated cable burial – we'd be happy to receive this as part of the cable plan, but equally if it needs discussion beforehand then please don't hesitate to get back in touch. We would be looking for confirmation not only that the cable can be buried to sufficient depth following pop out, but also that this burial can be maintained over the lifespan of the project, factoring in storm events and any longer-term seabed profile changes (such as those associated with ongoing erosion and sea-level rise).

Following the discussion at last week's meeting, we think it should be possible to evidence this for pop out in water depths of ~4m, but the risks will start to increase in shallower waters. Both yourselves and ourselves wish to avoid the need for cable protection: from an environmental perspective this would impact on the geomorphological interests of Spey Bay SSSI.

We'd be interested in hearing the outcomes of your meeting with the cable contractor. Please don't hesitate to contact us if there are any issues you wish to discuss in relation to this work or the drafting of your cable plan.

Yours sincerely,

**Catriona Gall**
Marine Renewables Casework Adviser - Offshore Wind

**APPENDIX B**

**SNH & JNCC ADVICE on the BEATRICE EXPORT CABLE**

This appendix sets out the information we need on the Beatrice cable works, in order to establish the "worst case" scenario and determine whether there could be any risk of impacts on Spey Bay SSSI or on Atlantic salmon from the River Spey SAC.

Further to discussion at the meeting of 31 May 2016, we also provide some supporting advice on the rates of coastal erosion in Spey Bay. This information is important to consider in relation to the placement of onshore infrastructure, noting that the location of such infrastructure (particularly the transition pits for directional drill / direct pipe) may have a bearing on what can be achieved in terms of cable pop out.

**Establishing the worst case**

Spey Bay is a high energy environment so the shallower the water in which the cable pops out, the stronger the wave action it will be subject to, and the more difficult it may prove to maintain cable burial in the longer term. In this regard we seek the following information to establish the "worst case" for assessment:

- Confirmed location of onshore infrastructure.
- Minimum distance offshore for cable pop out, with the distance to be measured from mean high water springs (MHWS), clearly stating the source and date of the MHWS information.
- Minimum water depth for cable pop out.

**Spey Bay SSSI – cable burial risk assessment**

Chapter 8 of the Beatrice cable plan does not currently provide the information we were looking for on cable burial, as noted in our advice of 18 November 2011 (see Appendix A).

In this regard we seek the following:

- Submission of a risk assessment for cable burial that takes account of potential re-exposure and possible coastal retreat over the 25 year project lifespan.
- Explanation of the term "burial to 0.5m below the mud line" and whether this means a depth of lowering of 0.5m.
- Confirmation on whether jointed metal casing will be used for cable protection from pop out to the depth of closure.
- Confirmation of the maximum diameter of the export cable + thickness of the jointed metal casing. (*NB. Likely to be ~30cm diameter as indicated in a phone call with BOWL.)*
- Contingency options if the proposed jointed metal casing does not last the full 25 years.

Depending on the information thus supplied, further work may be needed if there's any risk that the BOWL export cable could impact on coastal processes in Spey Bay SSSI.

**Advice on risks to Atlantic salmon from the River Spey SAC**

In our response to the marine licence application (letter dated 8 July 2013), we advised that:

> …potential impacts arising from installation of the export cable have not been thoroughly evaluated, particularly where it draws close to shore in proximity to the River Spey SAC. The original ES indicated that installation of this section of the cable

could just take a matter of days, so that mitigation, or avoidance, of impacts could be possible by timing the work to avoid peak smolt runs…

In this regard, the further offshore the directional drill / direct pipe can go the increasing likelihood that this in itself will be the only necessary mitigation. However, if cable pop out is needed in the shallower water depths (<4m) closer to shore, there is a risk that the work could impact on Atlantic salmon and give rise to likely significant effects. In this case, we would advise mitigation to time the work in order to avoid peak smolt runs from the SAC.

**Advice on benthic interests**

We note the records of ocean quahog which we think derive from the survey work undertaken by APEM in 2015 (see Table 5.1 in the cable plan). We confirm that the design, route and installation of the BOWL export cable will not significantly impact on this species nor on any other benthic interests. We would, however, welcome a copy of the APEM survey report.

**Advice on coastal erosion in Spey Bay SSSI**

Further to discussion at the meeting of 31 May 2016, and subsequent emails, we are able to provide the following advice on coastal erosion in Spey Bay SSSI. Please see **Appendix C** for a map illustrating the line of MHWS recorded at different points over time. This information is taken from the ongoing National Coastal Change Assessment: http://www.dynamiccoast.com/

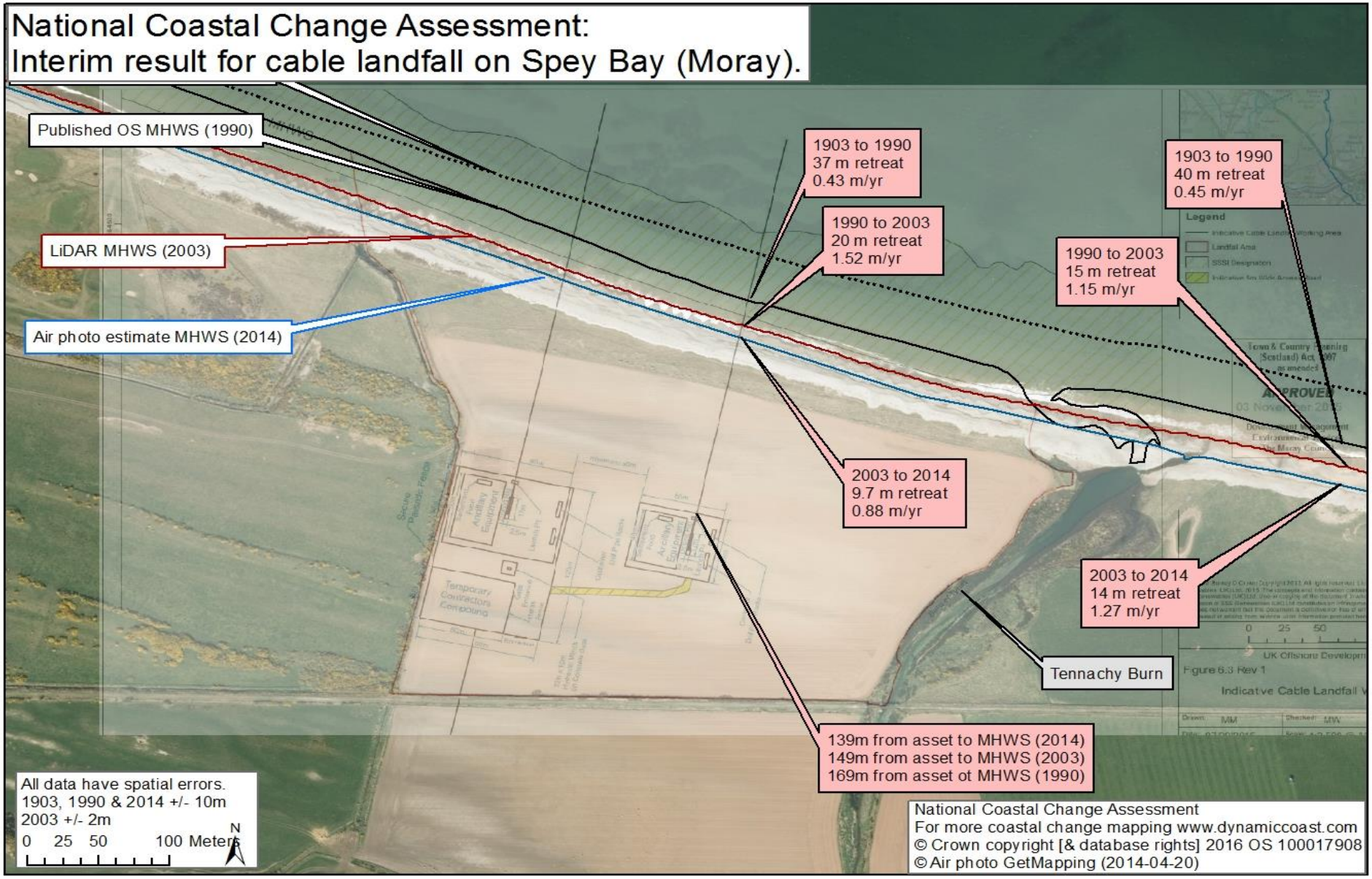
The map indicates different rates of erosion – between 0.43 and 1.52 m per year – relating to the three points in time at which the position of the coastline has been measured. The data is sparse and it doesn't suggest any long-term trend (e.g. stable, accelerating or slowing); the associated error margins are also large (e.g. rates could be halved or doubled). So while it is difficult to define a "representative" rate of erosion, the available information does indicate that this has generally been over 0.5m per year and that for significant periods of time it has exceeded 1m per year, occasionally coming close to 2m per year.

The following issues are relevant to consider when extrapolating from past rates into the future:

- There is an absence of any source of 'new' gravels to feed the beach at this east end. This makes persistent erosion more likely, contrasting with other areas of Spey Bay where there may be cyclic variation between periods of erosion and periods of stability or growth.
- Changes to gravel landforms around the mouth of the Spey are less likely to influence this end of the beach as the longshore movement is dominantly to the north-west.
- Any unsteadiness in erosion resulting from periodic growth of gravels across the Tennachy Burn is likely to be very minor especially in comparison to storm-driven variations.
- Erosion over the past century has been eating into the old, vegetated gravel ridges located in this area, and this is likely to continue despite the rising slope of land.

Taken together, these considerations give no reason to think that long-term erosion rates will significantly reduce in future. Infrastructure should therefore be planned to allow for an eroding coastline.

**APPENDIX C**


National Coastal Change Assessment:
Interim result for cable landfall on Spey Bay (Moray).
Published OS MHWS (1990)
LiDAR MHWS (2003)
Air photo estimate MHWS (2014)
1903 to 1990
37 m retreat
0.43 m/yr
1990 to 2003
20 m retreat
1.52 m/yr
1903 to 1990
40 m retreat
0.45 m/yr
1990 to 2003
15 m retreat
1.15 m/yr
2003 to 2014
9.7 m retreat
0.88 m/yr
2003 to 2014
14 m retreat
1.27 m/yr
Tennachy Burn
139m from asset to MHWS (2014)
149m from asset to MHWS (2003)
169m from asset ot MHWS (1990)
All data have spatial errors.
1903, 1990 & 2014 +/- 10m
2003 +/- 2m
0 25 50 100 Meters
N
National Coastal Change Assessment
For more coastal change mapping www.dynamiccoast.com
© Crown copyright [& database rights] 2016 OS 100017908
© Air photo GetMapping (2014-04-20)

Northern Lighthouse Board

**CAPTAIN PHILLIP DAY**
**DIRECTOR OF MARINE OPERATIONS**

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Email: enquiries@nlb.org.uk

Your Ref: Beatrice OWF (DSLP-OfTW) - 04461/16/0
Our Ref: AJ/OPS/ML/O6_01_326

Ms Catarina Aires
Marine Renewables Casework Officer
Marine Scotland Licensing Operations Team
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

11 July 2016

Dear Catarina,

**MARINE (SCOTLAND) ACT 2010**
**MARINE AND COASTAL ACCESS ACT 2009 (AS AMENDED)**

We are in receipt of your email dated 27 June 2016 requesting comment on the Marine Licence (No. 04461/16/0) discharge condition 3.2.2.6 under the Section 36 Consent for **Beatrice Offshore Windfarm Ltd (BOWL)** to construct and operate the export cable corridor required for the offshore wind farm site.

We are content that the conditions within the Marine Licence have been met by Beatrice Offshore Windfarm Ltd.

We note that the cable corridor route passes through an area designated as a Site of Special Scientific Interest (SSSI) and will pass under the area by means of two pre-laid ducts installed by horizontal directional drilling (HDD). NLB would require discussions with the operators on the possible requirement for marking the landfall point of the cable ducts and the seaward exit of the duct with regards to any possible obstruction on the seabed.

We also require that the mariner is informed of the date, location and duration of these works and that the UKHO is informed of the route and any safety devices deployed to protect the cables or the exit from the ducts in order that Admiralty Chart BA223 can be correctly updated.

We further require that NLB receive notifications of any local Notices to Mariners promulgated regarding the commencement of operations with respect to this project.

Please advise if we can be of any further assistance, or if clarification of any of the above is required.

[redacted]

SCOTTISH FISHERMEN'S FEDERATION

Our Ref: MM/fl: 16-059

Your Ref:

25th July 2016

Scottish Fishermen's Federation
24 Rubislaw Terrace
Aberdeen, AB10 1XE
Scotland UK

T: +44 (0) 1224 646944
F: +44 (0) 1224 647058
E: sff@sff.co.uk

www.sff.co.uk

by email to: catarina.aires@gov.scot; ms.marinerenewables@gov.scot

Dear Sir/Madam

**BOWL LF 000005-PLN-181 DSLP**

The Scottish Fishermen's Federation (SFF) is pleased to respond on behalf of the 550 fishing businesses in membership of its ten constituent associations, the Anglo-Scottish Fishermen's Association, the Clyde Fishermen's Association, the Fife Fishermen's Association, the Fishing Vessel Agents & Owners Association (Scotland) Limited, the Mallaig and North-West Fishermen's Association Ltd, the Orkney Fishermen's Association, Scallop Association, the Scottish Pelagic Fishermen's Association Ltd, the Scottish Whitefish Producers' Association Ltd and the Shetland Fishermen's Association.

The SFF finds that the paper named above does not include any information that could have a material effect on the fishing industry. The SFF are content that the most relevant information required was included in LF 000005-PLN-152.

The SFF however would point out that none of this data/information, from LF 000005-PLN-152, has been put to the Moray Firth Offshore Wind Development Group – Commercial Fisheries Working Group as described in Consent Condition 32. This group has not met now since September 2015 and therefore has not had the chance to assess the plan and determine whether any mitigation is required.

I would therefore urge the developers to meet with the group asap.

Yours faithfully

[redacted]

Bertie Armstrong
**Chief Executive Officer**
**Scottish Fishermen's Federation**

[redacted]

**From:** [redacted]
**Sent:** 08 July 2016 11:06
**To:** MS Marine Renewables
**Subject:** RE: Consultation on BOWL Post-consent Development Specification and Layout Plan, Offshore Transmission Works (DSLP-OfTW), by 26th July

Dear Catarina,

Thanks for sight of the DSLP for the Offshore Transmission Works (export cable). I have reviewed the plan and I have no comments to make.

Best regards,

Nick

Nick Salter
Offshore Renewables Advisor
Navigation Safety Branch | Maritime and Coastguard Agency
Spring Place | 105 Commercial Road | Southampton | SO15 1EG
Tel: 023 8032 9448 | Mob: 07879 000658 | Email: nick.salter@mcga.gov.uk

Maritime & Coastguard Agency
Safer Lives, Safer Ships, Cleaner Seas

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**From:** navigationsafety
**Sent:** 28 June 2016 09:06
**To:** [redacted]
**Subject:** FW: Consultation on BOWL Post-consent Development Specification and Layout Plan, Offshore Transmission Works (DSLP-OfTW), by 26th July

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**From:** Catarina.Aires@gov.scot [mailto:Catarina.Aires@gov.scot]
**Sent:** 27 June 2016 17:37
**To:** [redacted]
**Subject:** Consultation on BOWL Post-consent Development Specification and Layout Plan, Offshore Transmission Works (DSLP-OfTW), by 26th July

**ELECTRICITY ACT 1989**
*The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000*
**MARINE (SCOTLAND) ACT 2010 & MARINE AND COASTAL ACCESS ACT 2009, PART 4 MARINE LICENSING**
*The Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended)*

Dear Sir/Madam,