



Scottish Natural Heritage
Dualchas Nàdair na h-Alba

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

9th December 2016

Our ref: CNS/MAR/OTH/OTL-POCF/A2159509

Your ref: AANOV03

By e-mail

Emma Langley

Intertek

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Dear Ms Langley

SHIP TO SHIP OIL TRANSFER LICENCE
PORT OF CROMARTY FIRTH
APPROPRIATE ASSESSMENT SCOPING CONSULTATION

Thank you for your letter dated 18th November 2016, and your revised letter dated 30th November 2016, requesting our advice on the scoping of the appropriate assessment for the above proposal.

GENERAL COMMENTS

Our advice should be read alongside our response dated 5th February 2016 to the original Oil Transfer Licence application. Our earlier letter describes our current position in relation to the proposal and it gives more detailed information about the designated interests present and the impact pathways. Please note that the Scottish Environment Protection Agency (SEPA) lead on ballast water in relation to this case and they should be consulted on how impacts associated with ballast (and the introduction of invasive non-native species) should be taken into account in the appropriate assessment.

Our advice is provided to assist the Maritime and Coastguard Agency (MCA) to meet its responsibilities under Schedule 1 of The Merchant Shipping (Ship-to-Ship Transfers) Regulations 2010. We also advise where we consider that additional information should be provided by the applicant in their revised environmental statement as required in Schedule 2 of the 2010 Regulations.

SPECIFIC COMMENTS

We have a number of specific comments on the outline methodology you provided. For clarity, we have organised our comments based on the sections set out in this methodology.

Appropriate Assessment Methodology	Our advice
Page 3. Methods of Assessment	Point 2 This section should include information on:

[Scottish Natural Heritage, Fodderty Way, Dingwall Business Park, Dingwall, Ross-shire. IV15 9XB](#)
Tel: 01349 865333 Website: www.snh.gov.uk

Dualchas Nàdair na h-Alba, Slighe Fodhraitidh, Pàirc Gnìomhachas Inbhir Pheofharain, Inbhir Pheofharain, Siorrachd Rois. IV15 9XB
Fòn: 01349 865333 Làrach-lìn: www.snh.gov.uk/gaelic

- The relative importance of the designated sites in the Cromarty Firth and inner Moray Firth area and their contribution to the wider Natura series.
- The spatial and temporal distribution and abundance of designated interests and critical and/or core areas within sites.
- The importance of supporting habitats and or nursery grounds (e.g. of key prey species) for designated interests.

Point 3

- In order to inform the appropriate assessment, the revised environmental statement should:
 - Provide further information on the reasoning and justification for the use of 1 tonne volume of spilt oil - also see comments under point 6, bullet point 2 below.
 - Provide a clear rationale and justification for the worst case scenario. The total volume of oil to be transferred in a single operation (i.e. 180,000 tonnes) may be a starting point based on a catastrophic incident, however unlikely this might be. We also note that the Merchant Shipping Notice 1829 (M), section 7.1 states that “*Adequate Oil Pollution response equipment shall be provided by the STS operator and forward located at immediate readiness to provide sufficient response resource to deal with an estimated worst case scenario 300t spill of Heavy Fuel Oil.*” If either of these two worst case scenario volumes are not used then it would be helpful for the environmental statement to explain why this is the case.
- The proposed underwater noise modelling will inform this aspect of the appropriate assessment. This should recognise that there is overlap between bottlenose dolphin communication vocalisations and the likely noise associated with STS transfers. There is the possibility that noise from the transfer operations may mask dolphin communication signals or effect foraging success. We support your recommendation to consider underwater noise based on both Southall *et. al.* (2007) and NMFS (2016). We advise that you should also consider other published literature in relation to impacts of increased boat traffic on bottlenose dolphins, for example Pirotta *et. al.* 2015¹.
- The section of the appropriate assessment dealing with underwater noise should consider all vessel movements and noise associated with the STS operations in the context of other work likely to occur at the same time (i.e. cumulative impacts).
- In order to inform the underwater noise assessment, we advise that the revised environmental statement should:
 - Identify sources of underwater noise and disturbance arising from increased shipping movements and noise associated with engines and machinery, including pumps.
 - Clarify whether vessels will have engines running during the STS transfer, how many vessels will be involved (including tugs) and whether or not vessels will be using Dynamic Positioning (DP). Noise from DP, whether from

¹ Pirotta E, Merchant ND, Thompson PM, Barton TR., Lusseau D. 2015. Quantifying the effect of boat disturbance on bottlenose dolphin foraging activity. Biol. www.abdn.ac.uk. https://www.abdn.ac.uk/lighthouse/documents/Pirotta_2015.pdf

	<p>vessels taking part in the STS transfer or 'holding off', is likely to be particularly disturbing for the dolphins.</p> <ul style="list-style-type: none"> ○ Provide information on the numbers, types and behaviour of vessels involved in the STS transfer operations – including the mother and daughter ships and the support vessels. We note that the environmental statement stated that vessel movements associated with the STS proposal will result in a 13% increase in ship movements within the Cromarty Firth Port Authority area. This does not take into account the additional <u>time</u> that vessels may spend in a core area for the animals or the new operations that will occur there. Vessel time in core areas is a better way to assess potential impact than vessel movements. <p>Point 4</p> <ul style="list-style-type: none"> • Habitats also need to be included in this section. • The sentence is not finished. <p>Point 5</p> <ul style="list-style-type: none"> • As stated in our response dated 5th February 2016, this proposal could not have been located in a more sensitive location for the Moray Firth dolphins. The environmental statement and appropriate assessment need to recognise the importance of the inner Moray Firth and the Sutors for dolphins. • The dolphins use the Sutors year round, with some seasonal variation. An estimated 102 individual dolphins used the SAC during the summer of 2011, 112 in 2012 and 94 in 2013. At the Sutors, dolphins were detected on over 90% of days in April, October, November and December, only slightly less than in the summer, and for on average between 5 and 7 hours per day. 48 - 57% of the entire Scottish east coast dolphin population regularly uses the Sutors, including the proposed anchor area for the STS proposal². Depending on the time of the year it is possible that over a 24 hour period a high proportion of the dolphin population (<i>circa</i> 25%) may be exposed to any oil spilt in this area. • The appropriate assessment needs to recognise that even the loss of one adult female, through injury or death, could impact upon the Moray Firth dolphin population as a whole³. • The appropriate assessment needs to consider potential indirect or secondary effects on the designated features including impacts on supporting habitats and [prey] species. • In relation to the in-combination assessment we advise that the appropriate assessment should consider cumulative effects based on: <ul style="list-style-type: none"> ○ The risks associated with the related increase in the volume of oil being moved around the Moray Firth both as a result of this proposal and other existing, consented operations, such as the STS transfers at the Nigg Oil
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² Cheney, B., Graham, I.M., Barton, T.R., Hammond, P.S. and Thompson, P.M. 2014. Site Condition Monitoring of bottlenose dolphins within the Moray Firth Special Area of Conservation: 2011-2013. Scottish Natural Heritage Commissioned Report No. 797 http://www.snh.org.uk/pdfs/publications/commissioned_reports/797.pdf

Bailey, H. & Thompson, P.M. (2009). Using marine mammal habitat modeling to identify priority conservation zones within a marine protected area. *Marine Ecology Progress Series*, 378: 279-287.

³ Sanders-Reed, C.A., Hammond, P.S., Grellier, K. & Thompson, P.M. 1999. Development of a population model for bottlenose dolphins. Scottish Natural Heritage Research, Survey and Monitoring Report No 156.

	<p>Terminal.</p> <ul style="list-style-type: none"> ○ An assessment of the risk of collisions occurring between 'general shipping' and vessels actively carrying out the STS cargo transfer. General shipping includes vessels that are accessing the Cromarty Firth from the wider Moray Firth as well as tankers that are holding-off or travelling to the Sutors to carry out STS transfers and then their subsequent onward travel. <p>Point 6</p> <ul style="list-style-type: none"> ● In order to inform the appropriate assessment, the revised environmental statement should: <ul style="list-style-type: none"> ○ Explain the process of the STS transfer operation, including details about pump rates and Emergency Shutdown procedures/times and the number of hoses to be deployed in the transfer process. ○ Quantify the risk of accidental fire or explosion and mooring failure. ○ Consider the proximity of the anchor point to land and the depth of water at the anchor point and quantify and qualify the risk of accidents arising from broken or dragged moorings and the risks associated with grounding of one or more of the vessels. ○ Explain the systems in place to prevent spills occurring. ○ Qualify the limitations of the mitigation measures which would be put in place to respond to an accident. For example, the ability to deploy such measures, and their effectiveness, is dependent upon factors such as weather (e.g. 2m swells and 27 knot wind speeds), currents and effective communication. ○ Consider the response times and efficiency for dealing with spilt oil in the worst case scenario, recognising the limitations of oil recovery, even in favourable weather conditions. ○ Describe the measures to deal with spilt oil – these may also have impacts on species and habitats (e.g. the use of dispersants). The appropriate assessment should consider the impacts of a clean-up response on the designated interests. ○ Assess the efficacy of oil spill clean-up operations if the STS transfers associated with this proposal occur simultaneously with STS or Land-to-Ship transfers at the Nigg Oil Terminal.
<p>Page 4. List of designated sites</p>	<ul style="list-style-type: none"> ● Appendix C of the environmental assessment (submitted 9 December 2015) screened all designated sites within 100km of the STS locations; 34 designated sites were screened in for potential significant effects. Information on the special features and conservation objectives for all of the designated sites that may be affected can also be found on our website: http://www.snh.gov.uk/publications-data-and-research/snhi-information-service/ ● The River Moriston SAC has been omitted from the screening process. The River Moriston is designated for Atlantic salmon and freshwater pearl mussel. Fish that access the River Moriston will use the inner Moray Firth. Freshwater pearl mussels rely on

Atlantic salmon to fulfil their life history; therefore there is connectivity between the River Moriston SAC and this proposal. Migrating salmon are vulnerable to oil spills and some clean up measures depending on the type and quantity of oil and the time of the year. We therefore advise that the proposal could result in a Likely Significant Effect to the Atlantic salmon and freshwater pearl mussel interest of this SAC. These designated interests therefore need to be screened in to the appropriate assessment.

Moray Firth SAC – Dolphins

- The appropriate assessment should consider whether the environmental statement supporting a revised application provides a realistic assessment of the effects of oil on dolphins through both direct exposure and through impacts on their prey. It is not sufficient to state that dolphins move away from spills – scientists have observed that dolphins at sea do not necessarily avoid floating oil slicks, sometimes actually swimming into them.
- The appropriate assessment should consider whether the information supporting a revised application demonstrates that it is adequately informed by the scientific literature, for example there have been numerous studies from the Deepwater Horizon oil spill in the Gulf of Mexico⁴ and NOAA Research⁵).
- In order to inform the appropriate assessment, the revised environmental statement should provide:
 - Further information on the type of oils to be transferred and the predicted spread of 1 tonne and a worst case scenario on the surface of the water/in the water column.
 - Further detail about how 1 tonne and a worst case scenario of the oil types being transferred might behave in a range of weather and tidal conditions.
- The appropriate assessment should consider:
 - A scenario of 1 tonne of oil in the Sutors area during the summer months when the dolphins are most prevalent.
 - A worst scenario of oil in the Sutors area during the summer months when the dolphins are most prevalent.
 - The number of dolphins that could come in to contact with the oil, both on the surface and in the water column.
 - Information on the likely impacts to supporting habitats and prey species of bottlenose dolphin.
 - The effectiveness and impact of any proposed mitigation to keep dolphins away from the spill.
 - The likely consequences of this for the integrity of the Moray Firth SAC, bottlenose dolphin feature.

Moray Firth SAC – subtidal sandbanks

- The appropriate assessment should provide:
 - Information about the occurrence of the sandbank feature in the vicinity of the Sutors.
 - The likely consequence of oil contamination and anchoring/anchor scour on the sandbank feature and

⁴ <https://www.marinemammalscience.org/conference/conference-schedule/>

⁵ <http://response.restoration.noaa.gov/about/media/summarizing-five-years-noaa-research-impacts-deepwater-horizon-oil-spill-dolphins.html>

⁶ <http://response.restoration.noaa.gov/about/media/how-do-you-keep-killer-whales-away-oil-spill.html>

	<p>likely rates of recovery.</p> <ul style="list-style-type: none"> ○ The likely consequence of oil spill clean-up measures on the sandbank feature. <p>Dornoch Firth and Morrich More SAC – common seals</p> <ul style="list-style-type: none"> ● The appropriate assessment should recognise that: <ul style="list-style-type: none"> ○ The proposal is less than 50km from the Dornoch Firth and Morrich More SAC therefore there is connectivity between the proposal and the common seal interest of that site. ○ We know that common seals tagged in the Dornoch Firth regularly use the inner Moray Firth and there are large haul-out sites both in the Cromarty Firth and at Whiteness Head. ○ The haul-out at Whiteness Head holds 20% of the Moray Firth population of common seals and it is the most important haul-out for this species, not only in the Moray Firth but on the east coast of Scotland. ○ Common seals are vulnerable to oil spills, particularly during the breeding season (June, July and August inclusive) and when they moult⁷. ○ Even a small spill of 1 tonne at the Whiteness Head haul-out site would be significant if it occurred during the breeding or moulting season. ● We advise that the appropriate assessment should assess the risk of oil pollution on common seals, especially animals that haul-out at Whiteness Head and in the Cromarty Firth. The assessment should address: <ul style="list-style-type: none"> ○ The effects of oil on common seals through both direct exposure and through impacts on their prey and habitats. ○ A scenario i.e. 1 tonne of oil at the Whiteness Head haul-out site during the common seal breeding/moulting season. ○ A worst case scenario of oil at the Whiteness Head haul-out site during the common seal breeding/moulting season. ○ The likely consequences of this for the integrity of the Dornoch Firth and Morrich More SAC, common seal feature. ○ This should be set against a significant decline in common seal numbers in the Moray Firth and the UK as a whole. <p>Moray Firth pSPA</p> <ul style="list-style-type: none"> ● The appropriate assessment should recognise that: <ul style="list-style-type: none"> ○ Some of the qualifying interests of the Moray Firth pSPA have high sensitivity to oil pollution and for some species there could be risk of long-term population impacts in the event of a major incident. ○ Some species may also be vulnerable to significant disturbance in particular locations or seasons (e.g. common eiders when flightless during moult).
Page 5. Potential	<ul style="list-style-type: none"> ● This should include the effect of contamination as well as

⁷ The common seal moult - for all animals older than pups - follows the pupping season. The moulting season usually lasts about 4-5 weeks, although the time of the moult for individuals may vary according to age, sex and reproductive status.

Adverse Effects. Bullet point 1	smothering. <ul style="list-style-type: none"> • The effects are relevant for both habitats and species.
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ADDITIONAL COMMENTS

The proposal is within an area of high natural heritage importance. The choice of location is a key mitigation that has not been considered. The competent authority may find it useful if the applicant described how they have considered alternative solutions to achieve their goal. We advise that consideration of alternatives is included within a revised environmental statement (and this would seem to be a requirement of Schedule 2 of the 2010 Regulations).

In addition to our advice on the scoping of the appropriate assessment it is important to note that there are a number of other interests that should be addressed in a revised environmental statement to help with the determination of this application.

European Protected Species

- The main cetacean species that will be affected by this proposal are bottlenose dolphin, porpoise and minke whale.
- Other cetaceans may also occur less frequently in the area e.g. the recent humpback whales and orca sightings.
- An EPS⁸ licence to disturb may be required.

Basking sharks

- There have been recent sightings of basking shark in the Inner Moray Firth area and off the Sutors.

Rosemarkie to Shandwick Coast SSSI – Great Cormorant

- The population of cormorants breeding on the North Sutor is one of the largest in Scotland and the largest in the Inner Moray Firth. The site supports more than 2% of the national breeding population.
- Further assessment should include:
 - The likely consequence of oil contamination on the cormorant population using this SSSI and their likely rates of recovery.
 - The likely consequence of oil spill clean-up measures this interest.
 - The implications of any impact on this cormorant population in a wider Moray Firth and Scottish context.

Priority Marine Features

- Horse mussel beds are a PMF⁹ and they have been recorded in the entrance to Cromarty Firth
- Other PMFs within 12km of the anchor points include blue mussel beds, intertidal mudflats and seagrass beds.
- Further assessment should include:
 - Information on the occurrence of PMF's in the vicinity of the Sutors.
 - The likely consequence of oil contamination on PMF's and likely rates of recovery.
 - The likely consequence of oil spill clean-up measures on PMF's.

Please contact me if you have any questions or require further clarification on this letter.

⁸ <http://www.snh.gov.uk/protecting-scotlands-nature/species-licensing/mammal-licensing/marine/>

⁹ <http://www.snh.gov.uk/protecting-scotlands-nature/priority-marine-features/>

In addition to the Port of Cromarty Firth (copied in to your consultation letter) I am also copying in the MCA as the competent authority and the SEPA as they are mentioned in this letter.

Yours sincerely,

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