

Amendment of the Environmental Assessment of the Husky Delineation/Exploration Drilling Program for Jeanne d'Arc Basin Area, 2008-2017 (LGL May 2017)

GENERAL COMMENTS

Canada – Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB)

In Section 2.3 of the May 2017 Amendment, Husky states that the mitigation measures described in the original EA (LGL 2007a) remain applicable to this project within the context of a three year scope extension. In respect of accidental events, Husky should review the content of Section 8 of the original EA (LGL 2007a), and the related report by SL Ross Environmental Research Ltd (2007b), Oil spill fate and behaviour modeling in support of Husky's 2007 drilling EA.

The review by Husky should verify that the environmental data used to conduct the modelling is consistent with current information regarding ocean currents, wind, sea ice conditions, and air and water temperature. In addition, Husky should verify that the oil properties, volumes and flow rates of batch spills and accidental losses of well control (blowouts) are consistent with information obtained from Husky's drilling programs conducted from 2008 to 2017.

In light of the review described above, Husky should determine whether or not the discussion of potential effects of accidental effects and the mitigations to be employed by Husky continue to remain relevant

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Natural Resources Canada (NRCan)

On page 10 of the May 2017 Amendment document, the following conclusion is made: "Regardless of the worse-case scenarios associated with the 2012 modelling compared to the 2007 modelling used for the original assessment, the same conclusions were predicted..."

NRCan has some concerns about the appropriateness of the modelling and suggests that the Proponent consider updating their model based on knowledge gained from the Macondo spill. For instance, if the Proponent is assuming that 100% of the oil from a well blow-out will rise to the surface, the Macondo spill demonstrated that this is not the case. Oil spill research demonstrates that light crudes are easily dispersed and will form oil-mineral-aggregates that will stay subsurface. Given this, what proportion of the oil from a spill would be removed subsurface, and where would it go? What potential impacts could the resulting sludge have?

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Environment and Climate Change Canada (ECCC)

ECCC has no objections or comments concerning the proposed temporal extension to the project. However, given that the original project was reviewed in 2007, ECCC recommends that the following sections of the project environmental assessment be updated to reflect advances in our knowledge of the potential impacts of offshore oil and gas developments on migratory birds.

Sheens

Chronic sheens from oily discharges around the oil rig can adversely affect the insulative nature of the feather structure of seabirds, which can lead to hypothermia. ECCC recommends that the environmental assessment update discuss chronic oil sheens and mitigations the proponent has or intends to put into place, with reference to appropriate project documents and/or strategic environmental assessments.

References:

- Morandin, L.A. and O’Hara, P.D. (2016) Offshore oil and gas, and operational sheen occurrence: is there potential harm to migratory birds? *Environmental Review* 24:285-318
- O’Hara, P.D. and Morandin, L.A. (2010) Effects of sheens associated with offshore oil and gas development on the feather microstructure of pelagic seabirds. *Marine Pollution Bulletin* 60: 672-678

Seabird Population Updates

ECCC recommends that the EA be updated with the latest seabird population estimates, particularly for Leech’s Storm-Petrel. The relevant strategic environmental assessment (SEA) should be used, and ECCC can be contacted for estimates obtained since the publishing of the SEA.

Mitigations - Oil Pollution Incidents

The assessment of environmental effects which could result from accidents and malfunctions should be updated to include a consideration of potential spill events. The assessment should be guided by the general prohibitions against the deposit of a deleterious substance into waters frequented by fish (Section 36, Fisheries Act) and against the deposit of oil, oil wastes or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds (Section 5.1, Migratory Birds Convention Act). In addition, it should be focused on potential worst–case scenarios (e.g., concentrations of marine birds, presence of wildlife at risk). Based on this analysis, the environmental assessment should describe the precautions that will be taken and the contingency measures that will be implemented to avoid the identified impacts.

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In developing a contingency plan that would support the assessment of accidents and malfunctions, and a determination that impacts could be avoided or reduced, it is recommended that the Canadian Standards Association publication, Emergency Planning for Industry CAN/CSA-Z731-95 (Reaffirmed 2002), be consulted as a useful reference. All spills or leaks, including those from machinery, fuel tanks or streamers, should be promptly contained, cleaned-up and reported to the 24-hour environmental emergencies reporting system (Phone: 1-800-563-9089).

Spills could result in significant effects on migratory birds in the event that large numbers of birds, or individual species at risk (SAR), are affected. Migratory birds, including bird species at risk, could be significantly affected if spills affect important habitats or critical habitat for SAR. Disturbance resulting from accidental events during the breeding season in the vicinity of SAR or colonial bird nesting areas could also result in significant effects if it results in nesting failure or site abandonment by the birds.

Strategies to minimize or prevent accidental or chronic releases must be emphasized in a mitigation program. Proponents are required to demonstrate emergency response preparedness and to identify provisions for ensuring measures are implemented to eliminate or minimize resulting sheens or slicks in the event of accidents and malfunctions involving the release of oil. The following considerations are requested to be factored into the development of a response plan that would help reduce impacts on seabirds:

- measures for containing and cleaning up spills (of various sizes);
- equipment that would be available to contain spills;
- specific measures for the management of large and small spills (e.g., breaking up sheens);
- mitigation measures to deter migratory birds from coming into contact with the oil;
- mitigation measures to be undertaken if migratory birds and/or sensitive habitat becomes contaminated with the oil; and
- the type and extent of monitoring that would be conducted in relation to various spill events.

In order to assist proponents in preparing a plan for dealing with an oil spill which would potentially threaten migratory birds, ECCC has prepared a guidance document (attached), a sample protocol document used for oiled birds on beaches (attached), and a protocol for handling non-oiled but dead birds found on vessels (attached).

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Light Attraction and Migratory Birds

Seabirds were discussed in Section.3.2.2, Assessment of the Potential Effects of Accidental Effects of the 2017 amendment with respect to accidental events.

Attraction to lights at night or in poor visibility conditions during the day may result in collision with lit structures or their support structures, or with other migratory birds. Disoriented migratory birds are prone to circling light sources and may deplete their energy reserves and either die of exhaustion or be forced to land where they are at risk of depredation.

To reduce risk of incidental take of migratory birds related to human-induced light, ECCC recommends implementation of the following beneficial management practices:

- The minimum amount of pilot warning and obstruction avoidance lighting should be used on tall structures. Warning lights should flash, and should completely turn off between flashes.
- The fewest number of site-illuminating lights possible should be used in the project area. Only strobe lights should be used at night, at the lowest intensity and smallest number of flashes per minute allowable by Transport Canada.
- Lighting for the safety of the employees should be shielded to shine down and only to where it is needed.
- LED lights should be used instead of other types of lights where possible. LED light fixtures are less prone to light trespass (i.e. are better at directing light where it needs to be, and do not bleed light into the surrounding area), and this property reduces the incidence of migratory bird attraction.

ECCC recommends that non-emergency flaring at night be avoided. If the proponent is unable to completely avoid flaring activities at night, ECCC recommends that the proponent identify methods to address risks to nocturnally migrating birds and breeding seabirds, particularly storm-petrels. ECCC recommends that the proponent identify periods of high risk for bird/flare interactions, measures to avoid injury of migratory birds, and monitoring plans which explore how flare timing can be modified. Furthermore, ECCC recommends that the proponent investigate the potential to install flare shields to reduce light emissions.

Ellis et al. 2013 state that bird stranding reports on vessels and platforms “cannot directly assess the mortality caused by strikes and flaring because it is unknown how many birds are killed and not recovered. More work is required to relate the numbers of birds found on vessels and platforms to the total number of birds dying from collisions and flaring.” Hence there is a strong need for research and monitoring to quantify

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mortality events, particularly around flares, and identify conditions leading to mortality events, by implementing a monitoring program incorporating bird detection technology on platforms and mobile drilling ships in order to design effective mitigation strategies.

Reference:

- Ellis, J. I., S. I. Wilhelm, A. Hedd, G. S. Fraser, G. J. Robertson, J.-F. Rail, M. Fowler, and K. H. Morgan. 2013. Mortality of migratory birds from marine commercial fisheries and offshore oil and gas production in Canada. *Avian Conservation and Ecology* 8(2): 4. <http://dx.doi.org/10.5751/ACE-00589-080204>

Should storm-petrels or other species become stranded on vessels, the proponent is expected to adhere to the protocol *The Leach's Storm-Petrel: General Information and Handling Instructions* (attached). A permit will be required to implement this protocol and the proponent must be advised that such a permit must be in place prior to the initiation of proposed activities. Please note that MBCA permit applications can be obtained from ECCC via email at ec.scfatlpermis-cwsatlpermits.ec@canada.ca

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In 2007 an initial EA was tabled for a delineation/exploration drilling program for the Jeanne D’Arc Basin area (LGL 2007). Husky Oil is now proposing an extension of three years for this program based on extending approval for the original 2007 EA. The 2007 EA states clearly that “Seabirds are unequivocally the marine biota most at risk from accidental events resulting in releases of hydrocarbons” and acknowledges the importance of the Grand Banks to seabirds. Our comments will focus on the risks for seabirds posed by the proposed amendment.

Approval of the 2007 EA ten years ago was provided in a context in which assumptions of negligible or low environmental effects on seabirds off Newfoundland and Labrador from offshore oil and gas extraction had been supported through decades by sustaining uncertainty (Fraser & Russell 2016). A state of cultured ignorance if you will.

For example, the unsubstantiated assumption that chronic sheens around rigs resulting from routine operations do not pose serious risks to marine birds has been based for decades on the absence of data to prove otherwise. Since the 2007 EA new research has shown that this assumption is no longer tenable. Morandin and O’Hara (2016) found that ocean disposal of operational discharges, including produced water meeting the Waste Treatment Guidelines, produces sheens around offshore oil platforms in Atlantic Canada that kill marine birds.

Despite overturning the shocking assumption that operational discharge sheens in the waters around oil rigs do not pose serious risks to marine birds Morandin and O’Hara were not able to estimate the frequency and extent of occurrence of these sheens due to the monitoring practices in place. Monitoring practices have failed to collect the data required to properly assess this risk. This failure contributes to sustaining uncertainty.

Issues surrounding the risks from flaring to marine birds attracted by lights remain outstanding.

What are the probabilities of various species of marine birds encountering operational sheens? What are the probabilities of various species of marine birds encountering flares? After over sixty-five years of oil and gas activity on the Grand Banks we still don’t know the answer to these questions. The unquantified attraction of marine birds and other fauna to offshore platforms continues to be encouraged by marine discharges of sanitary and domestic wastes. The nutrient enrichment of platform environments in turn leads to unquantified increased risks of predation and encounters with hazardous waste and flaring.

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The 2017 Amendment acknowledges recent declines in Leach’s Storm-petrel populations in Newfoundland but only refers to risks to these populations from accidental events, not operational discharges that would include flaring and increased rates of predation due to attraction to the platforms. The detectability of these incidental potential mortalities remains unknown. The 2017 Amendment provides no new discussion of the seabird literature as it pertains to the risks they encounter from offshore oil and gas activity. There is no discussion of the work by Morandin and O’Hara confirming that operational discharges are permitted which kill marine birds in direct contravention of the Migratory Bird Convention Act. There is no review of or presentation of data or research on the risks to Leach’s Storm-Petrels and other birds attracted by light of flaring.

There is a striking absence of modeling efforts applied to support EA predictions on the interactions between seabirds and oil industry activity in this region. Throughout 65 years of oil exploration and development off the coast of NL seabirds have been a prominent VEC of concern. A series of high profile megaproject EAs have consistently concluded that the negative environmental effects on seabirds of these projects are negligible or low. Important questions raised repeatedly with respect to offshore oil and gas activities and the risks to marine birds over the decades remain unanswered (i.e. Wiese et al 2001).

Proceeding in the face of uncertainty is a form of risk taking. Offshore oil development in Canada is subject to a resource management regime claiming to be science based and guided by the Precautionary Principle serving a population that claims to value environmental health. Presently there is a concerning array and extent of environmental change and a concerning decline specifically in populations of Leach’s Storm-Petrels. In such a context it is worthy to note that Canada’s claims to rely on science to inform its resource management decisions while being guided by the Precautionary Principle. Allowing the status quo to continue i.e. allowing the proposed Amendment based on the 2007 EA, flies in the face of these claims.

A revamped methodology to oversee, assess and monitor the risks of future oil and gas activity on the Grand Banks is required. We ask that the 2017 Husky EA Amendment proposal be used as an opportunity to start this process.

We request detailed information on what use, if any, rigs contracted by Husky for this project make of Bay Bulls Harbour and if so, that Bay Bulls and the Witless Bay Ecological Reserve be included in the Project Area.

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Until outstanding concerns around the attraction of marine birds to oil platforms and flares and the risks they encounter once attracted are addressed we request that Husky’s request to extend the delineation/exploration drilling program for the Jeanne d’Arc Basin area be denied and subjected to a new EA process overseen directly by Environment Canada and subject to complete and transparent public access and review.

References Cited

Fraser, G.S., Russell, J. & Von Zharem, W.M. 2006. Produced water from offshore oil and gas installations on the Grand Banks, Newfoundland and Labrador: are the potential effects to seabirds sufficiently known? *Marine Ornithology* 34: 147–156.

Fraser, G.S., & Russell, J. 2016. Following-Up on Uncertain Environmental Assessment Predictions: The Case of Offshore Oil Projects and Seabirds Off Newfoundland and Labrador. *Journal of Environmental Assessment Policy and Management* Vol. 18, No. 1.

LGL Limited. 2017. Amendment of the Husky Delineation/Exploration Drilling Program for Jeanne d’Arc Basin Area, 2008-2017, Environmental Assessment. LGL Rep. FAO122. Rep. by LGL Limited, St. John’s, NL for Husky Energy, St. John’s, NL. 13 p. + Appendix

LGL Limited. 2007. Husky Delineation/Exploration Drilling Program for Jeanne d’Arc Basin Area, 2008-2017, Environmental Assessment. LGL Rep. SA935. Prepared by LGL, St. John’s, NL, in association with Canning & Pitt Associates, Inc., Oceans Ltd., and PAL Environmental Services. Prepared for Husky Energy Inc., Calgary, AB. 231 p. + Appendices.

Morandin, L.A. & O’Hara, P. D. 2016. Offshore oil and gas, and operational sheen occurrence: is there potential harm to marine birds? *Environmental Reviews*, 2016, Vol. 24, No. 3 : pp. 285-318

Wiese, FK, WA Montevecchi, GK Davoren, F Huettmann, AW Diamond and J Linke 2001. Seabirds at risk around offshore oil platforms in the north-west Atlantic. *Marine Pollution Bulletin* , 42, 1285– 1290.

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SPECIFIC COMMENTS

Fisheries and Oceans Canada (DFO)

Section 2.0 Project Description, page 4, the first sentence - “As detailed in the original EA, Husky proposed to drill up to 18 exploration / delineation wells on any current or future Husky land holdings in the Jeanne d’Arc Basin area during 2008-2017 within the Project Area.” It is also noted in Figure 2 (page 2) that the Geographic Scope of the Project Area now includes new Exploration License (EL) areas EL1151, EL-1152, EL-1121 and the western portion of EL-1134. These new EL areas (e.g. EL 1121, EL1151, and EL 1152) as well as EL-1134 have been included within a current Environmental Assessment process for a Husky exploratory drilling program 2018 – 2026 which is being led by the CEA Agency, under CEAA, 2012. It is not clear whether the submitted EA Amendment covers exploration/delineation activity on EL 1151, EL 1152 and EL 1121 and how this conflicts or duplicates the environmental assessment being lead by the CEA Agency in accordance with CEA 2012. This needs to be clarified and the link between the requested EA amendment and the current CEAA 2012 EA clarified accordingly.

Section 2.3 Mitigation Measures, page 7 and 8 - It is not clear whether the original project EA completed in 2007 included reference to mitigations to protect important benthic habitat features including commitment to the completion of pre spud video surveys at planned drill sites and a setback (for planned drill sites) of a minimum 100 m from coral/sponge colonies noted through pre-spud video surveys. This should be clarified.

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Section 3.5.3 Shorebase Facilities - the 2007 EA and the 2017 EA Amendment make no mention of Bay Bulls Harbour, adjacent to the Witless Bay Ecological Reserve. Neither is this reserve, a globally important seabird breeding area, included in the Project Area. On the contrary it is pointed out how far away it is. However, in April/May of this year a drill rig used in Newfoundland's offshore was parked for weeks outside Bay Bulls Harbour in plain site of globally important nesting concentrations of Leach's Storm-Petrels and other marine birds during the breeding season. The lights of the rig were clearly observed at night from Tors Cove.