

From: ECCC  
Sent: Monday, June 26, 2017 4:09 PM  
To: Hicks, Darren  
Cc: ECCC  
Subject: Husky Energy Jeanne d'Arc Delineation Exploration Drilling Program, CEAR No. 07-01-28877

Darren,

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.

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](#)).

#### 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 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](mailto:ec.scfatlpermis-cwsatlpermits.ec@canada.ca).

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