



Environmental Stewardship Branch
6 Bruce Street
Mount Pearl NF A1N 4T3

April 17, 2014

Ms. Elizabeth Young
Canada Newfoundland Offshore Petroleum Board
Fifth Floor, TD Place
140 Water Street
St. John's, NF A1C 6H6

Dear Ms. Young:

RE: Eastern Newfoundland SEA

EAS 2013-050C

As requested in your letter of March 5, 2014, Environment Canada has reviewed the revised draft report for the Eastern NL Strategic Environmental Assessment. EC is generally satisfied that most of our comments have been addressed. Outstanding comments are addressed below:

S108 §3.2.5.1 Spill History of the Offshore Petroleum Industry, pg 46.

The text has been adjusted to remove the reference to Chapter 5, however, the text still implies that extra-tropical storms only occur during the Summer and Fall months. EC recommends the following statement: *“As noted in Chapter 4, the Eastern Newfoundland Offshore Area is subject to hurricanes, tropical and post-tropical storms in the North Atlantic which can occur during the months of June through November. Additionally, extra-tropical cyclones can occur at any part of the year. Intense extra-tropical cyclones with the potential for hurricane force winds are more likely during the months of November through March.”*

S148 §4.1.3 Climatology

Response is not satisfactory. There is a brief description of some elements of climate change and variability in §4.2.1.8, but it is minimal and does not include any recent research. It is located in §4.2 Biological Environment, §4.2.1 Fish and Fish Habitat, a Valued Ecosystem Component, which is not the most appropriate location for the main description of climate change.

EC suggests that a description of projected climate change and variability (and knowledge gaps/uncertainties), over the anticipated time period of exploratory plus production phases, be added to §4.1 Physical Environment. This should make use of results from the most recent available peer reviewed research, such as papers cited in the latest IPCC reports.

S150 §4.1.3.1 Wind Conditions and §4.1.4.4 Extreme Wind and Wave Events

Some but not all responses to EA review comments in S150 were satisfactory.

Section 4.1.3.1 Wind Conditions was revised to add more information on definitions of wind averaging period and height. However there was no attempt to adjust maximum values of MSC50 winds presented in these sections to equivalent maximum values of measured or forecast sustained wind speeds. Such adjustment would facilitate comparison with the hurricane frequency statistics presented in 4.1.3.5 Tropical Systems, and with wind warnings in EC's marine forecast program, where the terms gust, storm, and hurricane force refer to specific thresholds for 10 minute sustained wind speeds. Without such adjustments the maximum wind speeds presented in 4.1.3.1 and 4.1.4.4 will under-represent the frequency of hazardous sustained wind speeds as generally understood. To illustrate, Table 4.3 for the Grand Banks gives the maximum hourly wind speed during the months of June to November as 30.8 m/s (60 kt), less than hurricane force, based on more than 50 years of hindcast data. In contrast, a much higher frequency of severe wind speeds is indicated by the hurricane statistics in Figure 4.37, based on a roughly similar 50 year time period. That indicates 15 hurricane strength (≥ 64 kt) tropical cyclones affected the Southeastern Grand Banks marine forecast area over that period of time.

EC recommends that adjusted maximum MSC50 wind speeds be added to 4.1.3.1 and 4.1.4.4, based on conversion factors such as provided in WMO 2012 "Definition of maximum sustained wind speed of tropical cyclones" World Meteorological Organization TCM-7/Doc 2.1, 4 pg, available online, or other suitable sources. If conversion factors for maximum winds for different averaging intervals from the ISO19901-1 standards are used, the factors should be provided, since the ISO document is not readily available.

The MSC Canadian Waters Extremal Analysis viewer does seem to be working. Perhaps Oceanweather Inc. could provide assistance.

4.1.4.4 Extreme Wind and Wave Events contains 2 sentences that are not clear: "...milder summer conditions end quickly with a rapid increase in severity in August"... That implies changes in temperatures but the mild sea temperatures may continue into September. In the next para., the sentences comparing maximum wave heights between winter and summer vs mean wave heights, and relating that to sea ice is confusing.

S159 §4.1.3.5 Tropical Systems.

As recommended by EC, statistics based on Atlantic Hurricane Database (HURDAT) for 1983 to 2012 were added to this section in order to bring the analysis period up to date. The analysis based on HURDAT was for tropical cyclones with no breakdown by intensity as had been presented in the original analysis. The lower wind threshold for defining tropical storms is relatively low: 34 kt (18.5 m/s) while for hurricanes it is 64 kt (32.9 m/s).

EC recommends that the analysis of HURDAT include statistics for hurricane force tropical systems separately from all tropical cyclones, in order to give frequency information on those tropical cyclones that pose the most serious hazards to offshore projects.

S200 Table 4.72 Important Bird Areas in Eastern NL Near the SEA Study Area

Harlequin Duck is listed as Special Concern in the *Species at Risk Act*, not Endangered.

S274 §5.2.3.2 Important Areas and Times for Migratory Birds

Mitigations should be developed to help make proactive avoidance and mitigation decisions for any activities that might affect migratory birds. The attraction of lights and flaring has been known to inadvertently harm, kill and/or disturb migratory birds. These issues and mitigations should be addressed in this section of the strategic environmental assessment. To assist in drafting this section, advice from EC-CWS regarding lights and flares is stated below.

Migratory birds that come into contact with flares or collide with rig structures should be collected. A protocol for handling non-oiled but dead birds found on the vessel is 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 *Migratory Birds Convention Act* permit applications can be obtained from EC-CWS via email at Permi.atl@ec.gc.ca.

Flaring Activities and Migratory Birds

Incineration or partial incineration of migratory birds has been known to occur during flaring activities. The harming, killing, disturbance or destruction of migratory birds as an unintentional consequence of human activities such as flaring is known as **incidental take** (please see <http://www.ec.gc.ca/paom-itmb> for more information concerning incidental take). Incidental take, in addition to harming individual birds, can have long-term consequences for migratory bird populations in Canada, especially through the cumulative effects of many different incidents.

There is no permit to allow incidental take. It is the responsibility of the proponent to ensure that activities are managed so as to ensure compliance with the MBCA and associated regulations.

To minimize risk of incidental take of migratory birds during flaring activities, Environment Canada recommends at minimum the following beneficial management practices:

- Flaring should not occur at any time if concentrations of migratory birds are at, near, or likely to become near the flaring apparatus.
- Scheduled flaring activities should be avoided at night and during conditions of fog during the day.
- When emergency flaring must occur during night and/or foggy conditions, we recommend that flaring be undertaken in short bursts so as to reduce the chance of attracting migratory birds.
- Should flaring be planned to proceed at night or in foggy conditions, the proponent must address risks to nocturnally migrating birds and breeding seabirds. This must include:
 - the development of an avifauna management plan. In this avifauna management plan should be detailed what measures are to be used by the proponent to avoid incidental take of migratory birds;
 - a mortality monitoring plan which would include corrections for searcher efficiency, carcass persistence, and searchable area; and
 - investigation into the installation of flare shields to reduce light emissions and potentially reduce migratory bird mortality.

Light Attraction and Migratory Birds

In Atlantic Canada, nocturnal migrants and night-flying seabirds (e.g. storm-petrels) are the migratory birds most at risk of attraction to lights and flares. 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 minimize risk of incidental take of migratory birds due to human-induced light, Environment Canada recommends at minimum the following beneficial management practices:

- The minimum amount of pilot warning and obstruction avoidance lighting should be used on tall structures.
- The use of only strobe lights at night, at the minimum intensity and minimum number of flashes per minute (longest duration between flashes) allowable by Transport Canada, is recommended.
- Using the minimum number of lights possible is recommended.
- The use of solid-burning or slow pulsing warning lights at night should be avoided.
- Lights should completely turn off between flashes.
- Lighting for the safety of the employees should be shielded to shine down and only to where it is needed, without compromising safety.

The full effects of light attraction to migratory birds are poorly understood. In order to understand the full impacts of light attraction to migratory birds, proponents should be encouraged to monitor the attraction of seabirds to illumination produced on offshore structures using the results and/or mitigation procedures generated by on-going research conducted in Atlantic Canada and elsewhere in the world.

More detailed Beneficial Management Practices concerning potential effects and mitigations related to light attraction and migratory birds are currently being developed by Environment Canada. Proponents should be encouraged to contact EC-CWS to obtain updated information.

I trust that this information will be of assistance in preparation of the scoping document. If you wish to discuss these comments or have further questions, please do not hesitate to contact me at your convenience.

Yours truly,

Signed by Glenn Troke

Glenn Troke
Environmental Assessment Coordinator
Environmental Protection Operations Directorate
EPOD/NL

cc Michael Hingston