

## REVIEW COMMENTS

### Environment Canada

Environment Canada is responsible for administering several statutes including the *Department of Environment Act*, *Fisheries Act* (Section 36), *Canadian Environmental Protection Act*, *Canada Water Act*, *Canada Wildlife Act* and the *Migratory Birds Convention Act*, which are focused on promoting sustainable development, protecting the environment, conserving certain renewable resources and reporting on environmental conditions. Stemming from these responsibilities, EC possesses expertise relevant to this proposal that should be considered by any Responsible Authority, in conducting the environmental assessment. The following comments are for your consideration in the screening of this project.

## REVIEW COMMENTS

### Regulatory Requirements

#### Fisheries Act

The proponent should be aware of the general applicability of Section 36(3) of the *Fisheries Act* which states: “no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any conditions where the deleterious substances or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water”. Environmental protection and mitigation measures should reflect the need to comply with Section 36(3) of the *Fisheries Act*. For example, measures should be taken to prevent substances such as lubricating fluids, fuels, etc. from being deposited into water frequented by fish, and drainage from construction and operational drainage must not be harmful to fish.

#### Migratory Birds Convention

Migratory birds, their eggs, nests, and young are protected under the *Migratory Birds Convention Act* (MBCA). Migratory birds protected by the MBCA generally include all seabirds except cormorants and pelicans, all waterfowl, all shorebirds, and most landbirds (birds with principally terrestrial life cycles). Most of these birds are specifically named in the Environment Canada (EC) publication, *Birds Protected in Canada under the Migratory Birds Convention Act*, Canadian Wildlife Service Occasional Paper No. 1.

Under Section 6 of the *Migratory Birds Regulations* (MBR), it is forbidden to disturb, destroy or take a nest or egg of a migratory bird; or to be in possession of a live migratory bird, or its carcass, skin, nest or egg, except under authority of a permit. It is important to note that under the current MBR, no permits can be issued for the incidental take of migratory birds caused by development projects or other economic activities.

Furthermore, subsection 5.1 of the MBCA describes prohibitions related to deposit of substances harmful to migratory birds:

- (1) No person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area.

- (2) No person or vessel shall deposit a substance or permit a substance to be deposited in any place if the substance, in combination with one or more substances, results in a substance — in waters or an area frequented by migratory birds or in a place from which it may enter such waters or such an area — that is harmful to migratory birds.

It is the responsibility of the proponent to ensure that activities are managed so as to ensure compliance with the MBCA and associated regulations.

*Species at Risk Act*

The Responsible Authority should be reminded that the Species at Risk Act (SARA) amends the definition of “environmental effect” in subsection 2(1) of the Canadian Environmental Assessment Act (CEAA) to clarify, for greater certainty, that EAs must always consider impacts on a listed wildlife species, its critical habitat or the residences of individuals of that species.

SARA also requires that the person responsible for a federal EA must, without delay, notify the competent minister(s) in writing if the project being assessed is likely to affect a listed wildlife species or its critical habitat. Notification is required for all effects, including adverse and beneficial effects, and the requirement to notify is independent of the significance of the likely effect. The person must also identify adverse effects of the project on listed species and their critical habitat. And if the project is implemented, the person must ensure that measures are taken to avoid or lessen adverse effects and that effects are monitored. Mitigation measures must be consistent with recovery strategies and action plans for the species.

The complete text of SARA, including prohibitions, is available at [www.sararegistry.gc.ca](http://www.sararegistry.gc.ca). For guidance on SARA and EA, the proponents may wish to make use of the *Environmental Assessment Best Practice Guide for Wildlife at Risk in Canada* available at: [www.sararegistry.gc.ca/virtual\\_sara/files/policies/EA%20Best%20Practices%202004.pdf](http://www.sararegistry.gc.ca/virtual_sara/files/policies/EA%20Best%20Practices%202004.pdf)

*Canadian Environmental Protection Act*

The proponent should also be aware of the potential applicability of the *Canadian Environmental Protection Act* (CEPA). The *Canadian Environmental Protection Act* enables protection of the environment, and human life and health, through the establishment of environmental quality objectives, guidelines and codes of practice, and the regulation of toxic substances, emissions and discharges from federal facilities, international air pollution, and disposal at sea.

***Migratory Birds & Species at Risk***

The Canadian Wildlife Service of Environment Canada (EC-CWS) has reviewed the above documents and offers the following specific and general comments.

In conducting the environmental assessment (EA), the vulnerability of individual species/groups of migratory birds to seismic programs must reflect a consideration of the following basic factors:

- distribution and abundance of species during scheduled project activities;
- impact pathways;

- mitigation;
- cumulative effects; and
- provisions for follow-up on assessment accuracy and mitigation effectiveness.

The following impact pathways influencing migratory birds must be considered in the analysis of any seismic survey:

- noise disturbance from seismic equipment including both direct effects (physiological), or indirect effects (foraging behaviour or prey species);
- physical displacement as a result of vessel presence (e.g., disruption of foraging activities);
- nocturnal disturbance from light (e.g., increased opportunities for predators, attraction to vessels and subsequent collision, disruption of incubation);
- exposure to contaminants from accidental spills (e.g., fuel, oils, streamer fluids) and operational discharges (e.g., deck drainage, gray water, black water); and
- attraction of, and increase in, predator species as a result of waste disposal practices (i.e., sanitary and food waste) and the presence of incapacitated/dead prey behind the vessel.

#### Considerations Specific to Species at Risk

If a migratory bird species is listed under Schedule 1 of SARA and could be affected by seismic activities, steps must be taken to ensure compliance with both SARA and the *Canadian Environmental Assessment Act* (CEAA).

Under Section 79 (1) of SARA, "Every person who is required by or under an Act of Parliament to ensure that an assessment of the environmental effects of a project is conducted, and every authority who makes a determination under paragraph 67(a) or (b) of the *Canadian Environmental Assessment Act, 2012* in relation to a project, must, without delay, notify the competent minister or ministers in writing of the project if it is likely to affect a listed wildlife species or its critical habitat."

#### *Ivory Gull*

The **Ivory Gull** (*Pagophila eburnean*) is listed as Endangered (Schedule 1) under the **Species at Risk Act** (SARA). The Ivory Gull is usually associated with pack ice and may be found in the project area during winter months. This species must be considered in the environmental assessment.

#### Cumulative Effects to be included in the EA

The discussion of cumulative effects must be shaped primarily by the valued ecosystem components under consideration. While an accounting of past, present and future projects and activities is a starting point in a cumulative effects assessment, the analysis must consider how impacts from the proposed project will combine with impacts from other projects and activities. In the context of marine birds, for example, the proponent must consider how the project will contribute to existing impacts (e.g., increase in predation, loss of foraging habitat) on birds from other activities (e.g., other oil and gas activities, fishing, shipping).

Information Sources to be included in the EA

The proponent should be aware of Environment Canada's Eastern Canadian Seabirds at Sea (ECSAS) program. This program has conducted over 4000 surveys covering 7800 km of ocean track in the Newfoundland and Labrador offshore area since 2006. The most up to date data for the study area must be included in the EA. This information is available by contacting Carina Gjerdrum (EC-CWS) at [carina.gjerdrum@ec.gc.ca](mailto:carina.gjerdrum@ec.gc.ca).

The ECSAS program can be cited as follow: Gjerdrum, C., D.A. Fifield, and S.I. Wilhelm. 2011. Eastern Canada Seabirds at Sea (ECSAS) standardized protocol for pelagic seabird surveys from moving and stationary platforms. Canadian Wildlife Service Technical Report Series No. 515. Atlantic Region. vi + 36 pp.

While proponents are also encouraged to employ peer-reviewed literature to support their conclusions, few studies on the interactions between birds and seismic survey activities have been conducted<sup>1</sup>, and none have been conclusive. It is important to recognize the limited applicability of available research findings in the discussion of impacts (i.e., conclusions likely do not apply to interactions with large concentrations of birds). It must also be noted that, while the ECSAS dataset contains the most recent seabird data available for the Newfoundland and Labrador offshore area, surveys have not been dedicated to determining impacts of seismic survey activities on seabirds, but rather are distribution data collection exercises.

While an EA may conclude that the overall impact of a seismic survey on seabirds is relatively small, it remains important that the opportunity for this activity to impact federally-protected avian species be properly acknowledged in the EA. Accordingly, it is also expected that the proponent commit to all reasonable measures to mitigate the potential for such impacts to occur. These measures are outlined below.

Mitigations - General

Mitigation measures related to adverse effects, including cumulative effects, must be identified. Measures must be consistent with the *Migratory Bird Convention Act* and SARA and with applicable management plans, recovery strategies and action plans. Mitigation must reflect a clear priority on impact avoidance opportunities. The following specific measures must be among those which are considered in preparing a mitigation strategy:

- 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 EC-CWS via email at [Permi.atl@ec.gc.ca](mailto:Permi.atl@ec.gc.ca).
- Ramping-up the air gun array over a 30-minute period - a procedure typically used for other animal groups - may encourage marine birds to leave the survey area and may

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<sup>1</sup> These studies include: Lacroix *et al* (2003), Stemp (1995), Turnpenny and Nedwell (1994), Evans *et al* (1993).

reduce the potential for adverse interactions between the project and marine birds accordingly.

- It is expected that the proponent demonstrate how they will minimize or prevent the release of hazardous substances onboard the seismic vessel (e.g. streamer fluid, chemicals for streamer repairs, fuels, lubricants) into the marine environment. Attention must be paid to impact avoidance and pollution prevention opportunities and a contingency plan must be developed to enable a quick and effective response in the event of a spill. Other management practices and preventative maintenance plans must be outlined such as a protocol to prevent streamer-associated spill events. This protocol must describe conditions that will allow the seismic program to be conducted without spill incidents (e.g., the range of environmental conditions within which streamers can operate, monitoring to detect leaks or tears).

#### Mitigations - Data Collection

EC-CWS has developed a pelagic seabird monitoring protocol (attached) that is recommended for use by experienced observers on all offshore projects. A guide for pelagic seabirds of Atlantic Canada has also been attached, for assistance in identifying pelagic seabirds in the area.

A report of the seabird monitoring program, together with any recommended changes, is to be submitted to EC-CWS on a yearly basis. In an effort to expedite the process of data exchange, EC-CWS recommends that the data (as it relate to migratory birds or Species at Risk) collected from the monitoring program be forwarded in digital format to the EC-CWS office following completion of the study. These data will be centralized for EC-CWS's internal use to help ensure that the best possible natural resource management decisions are made for these species in Newfoundland and Labrador. Metadata will be retained to identify source of data and will not be used for the purpose of publication. EC-CWS will not copy, distribute, loan, lease, sell, or use of this data as part of a value added product or otherwise make the data available to any other party without the prior express written consent.

#### Mitigations - Oil Pollution Incidents

Strategies to minimize or prevent accidental or chronic releases must be emphasized in a mitigation program. Proponents are required to demonstrate 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) either at the drill site or during transport;
- 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 birds, EC-CWS has prepared a guidance document (attached), as well as a sample protocol document used for oiled birds on beaches (attached). A protocol for handling non-oiled but dead birds found on the vessel is also attached.

### ***Effects of the Environment on the Project***

Seismic operations will be somewhat sensitive to environmental conditions (e.g., wind, waves, ice). The EA should include considerations on how such conditions acting on the project could have consequences for the environment (e.g., increased risk of spills and impacts on valued ecosystem components). Marine weather information can be found on the Meteorological Service of Canada website at [www.weatheroffice.gc.ca/marine](http://www.weatheroffice.gc.ca/marine). Additional information on regional climatology can be found at [www.climate.weatheroffice.ec.gc.ca](http://www.climate.weatheroffice.ec.gc.ca), or by contacting Environment Canada directly. Also, ice information can be found on the Canadian Ice Service website at [www.ice-glaces.ec.gc.ca](http://www.ice-glaces.ec.gc.ca).

### ***Effects of Accidents and Malfunctions***

The mandatory assessment of environmental effects that result from accidents and malfunctions should include a consideration of potential spill events, such as spills from damaged seismic streamers. The assessment should be guided by the need to ensure compliance with 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 35, *Migratory Birds Regulations*). 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 EA should describe the precautions that will be taken and the contingency measures that will be implemented to avoid or reduce the identified impacts.

Proponents are encouraged to prepare contingency plans that reflect a consideration of potential accidents and malfunctions and that take into account site-specific conditions and sensitivities. The Canadian Standards Association publication, *Emergency Preparedness and Response*, CAN/CSA-Z731-03, is a useful reference.

All spills or leaks of petroleum or other hazardous materials, including those from machinery, fuel tanks or streamers, should be promptly contained, cleaned- up and reported to the 24-hour environmental emergencies reporting system (St. John's 709-772-2083; other areas 1-800-563-9089).

### **Department of National Defence**

The Department of National Defence (DND) is likely to be operating in the vicinity of the study area in a non-interference manner during the project timeframe.

A search of the unexploded ordnates (UXO) records was conducted to determine the possible presence of UXO within the proponent's project area. Records indicate there are no wrecks present within the survey area. Given DND's understanding of the survey activities to be

conducted, the associated UXO risk is assessed as negligible. Nonetheless, due to the inherent dangers associated with UXO and the fact that the Atlantic Ocean was exposed to many naval engagements during WWII, should any suspected UXO be encountered during the course of the proponent's operations it should not be disturbed/manipulated. The proponent should mark the location and immediately inform the Coast Guard. Additional information is available in the 2012 Annual Edition - Notices to Mariners. Section F, No.37. In the event of activities which may have contact with the seabed (such as drilling or mooring), it is strongly advised that operational aids, such as remote operated vehicles, be used to conduct seabed surveys in order to prevent unintentional contact with harmful UXO items that may have gone unreported or undetected. General information regarding UXO is available at our website at [www.uxocanada.forces.gc.ca](http://www.uxocanada.forces.gc.ca).

### **Transport Canada**

All project vessels must comply with the applicable regulations under the Canada Shipping Act, 2001 (CSA 2001) and applicable International Maritime Organization (IMO) standards. More specifically:

- Project vessels registered in Canada must comply with all applicable provisions of the Regulations pursuant to the CSA 2001. In addition, the operation must comply with provisions under the Maritime Occupational and Health Regulations pursuant to Part II of the Canada Labour Code; and
- Project vessels registered in a foreign country must apply for a Coasting Trade Permit issued under the Coasting Trade Act. This means that the vessel would comply with all applicable regulations under IMO Conventions. The Coasting Trade Permit is actually issued by Canadian Customs in consultation with CTA and TC.

### **Fish, Food and Allied Workers**

Under heading number 10 on page 7 there is a sentence that reads "... it would not be expected to interact with ...". This sentence is confusing, as there is either an expectation or there is not?

In the Project Description developed by GX Technology it is indicated that they expect to use Marine Mammal Observer/ Fisheries Liaison Officer. The use of such expertise is required under the Canada- Newfoundland & Labrador Offshore Petroleum Board, as prescribed on page 47 of the Canada- Newfoundland & Labrador Offshore Petroleum *Boards Geophysical, Geological, Environmental and Geotechnical Program Guidelines* – per January 2012.

Further it is indicated in the Project Description that the intention is only to have one vessel in addition to the seismic vessel. Common practice is to have one vessel together with the seismic vessel at all times. It is especially important that there is a vessel with the seismic vessel when in heavily fished areas – for these locations it should be a Fisheries Guide Vessel. It is of utmost importance that the proponent diligently pursues the consultation process with all other ocean users. This is especially of importance as this program will have the seismic vessel operating close to and within various areas. The Petroleum Industry Liaison with the FFAW is available to assist in arranging consultation sessions specifically aimed at those active within the fishing industry.

### **Nunatsiavut Government**

The project description states that the proposed seismic survey is not expected to interact with coastal Valued Ecological Components (VECs) or traditional aboriginal resource areas. However, the extent of impact from multiple seismic survey lines on the Nunatsiavut Zone has not been demonstrated. As stated in the Canadian Environmental Assessment Act and associated regulations, the proponent must demonstrate, with a high certainty, the extent of the impacts. Currently, the extent of impacts of seismic on the Nunatsiavut Zone and the Inuit fishery has not been identified. The proposed seismic lines will be within 2 km of the Nunatsiavut Zone, and given the intensity of the air guns (greater than 242 dB) and the distance sound propagates under water, it is likely that there will be significant impacts on VECs and traditional aboriginal resources.

The marine environment is essential to the subsistence lifestyle of Inuit, for traveling and harvesting of traditional foods, as well as for the Inuit fishery. Given the spatial and temporal scale of this project, a growing body of published literature highlighting the negative impacts of seismic and a decreased catch per unit effort reported by Inuit Fishers during previous seismic campaigns, the Nunatsiavut Government recognizes the potential for significant negative impact on Inuit Rights within the Zone as well as the Inuit fishery and resources.

Substantially further Consultation, mitigation and accommodation measures must be put in place prior to any consideration of the proposed project proceeding. These may include, but not be limited to:

- The proponent and CNLOPB should be required to Consult with (and accommodate) Labrador Inuit and the Nunatsiavut Government given constitutionally protected Inuit Rights as well as the Inuit fishery;
- The Nunatsiavut Government recommends that seismic activities not take place prior to September 15th of each year, to allow the Inuit crab, turbot and shrimp fishery to take place undisturbed;
- The Nunatsiavut Government recommends that the proponent establish quantitative employment targets for Labrador Inuit. This should be done in consultation with the Nunatsiavut Government and agreed upon by Labrador Inuit;
- Given that the Fish Food and Allied workers union does not represent Labrador Inuit fishers, it is essential that a Labrador Inuit Fisheries Liaison Officer be employed by the proponent on the seismic vessel to interact with Inuit fishery vessels;
- The Nunatsiavut Government recommends an employment outreach program be established for Labrador Inuit, including the establishment of paid trainee positions on-board the seismic vessel in order to build capacity. This would include a recruitment program, transportation assistance and measures to address social or cultural issues, including language barriers;
- If the seismic vessel encounters a fishery vessel, it is essential the seismic vessel give way to the fishery vessel, regardless of the cost (monetary or otherwise) to the proponent;
- The Nunatsiavut Government recommends an annual research report to be submitted to the C-NLOPB and Nunatsiavut Government no later than January 31st, detailing the progress, potential environmental impacts and progress on Inuit-specific opportunities;



- The Nunatsiavut Government recommends that financial commitments be made by the proponent, C-NLOPB and/or Provincial and Federal Government to better understand the impacts of seismic surveys along the Labrador Coast. This would include an understanding of baseline physical and biological conditions, as well as an understanding of species important to the Inuit fishery. This research should be agreed upon by the Nunatsiavut Government, Fisheries and Oceans Canada, and independent experts. If changes from baseline conditions were observed through this research, the proponent would accept a degree of responsibility and the burden of proof would not rest on stakeholders to prove a cause and effect relationship; and
- The Nunatsiavut Government recommends that GX Technology Canada be required to organize and fund a workshop with stakeholder organizations, including Labrador Inuit and independent experts from academic or equivalent organizations to review and advise on a detailed draft seismic impacts monitoring program designed for the Labrador coast. This workshop should take place prior to any seismic work by the proponent.

Despite the proposed mitigation measures, the Nunatsiavut Government foresees any future seismic region on the Labrador Coast to have a significant impact on the region, Inuit Rights, and the Inuit Fishery and resources.