

Operator: Electromagnetic Geoservices Canada, Inc,

Title: EMGS 2022 Controlled-source Electromagnetic Survey Environmental Assessment

| # | Page #; Section#; Paragraph/Sentence# | Report Text | DFO Comment/Clarification Request |
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| 1 | Page 2.1; Section 2.1; paragraph 1 | <i>"The purpose of the Project is to collect data to inform potential future exploration drilling programs within the two target Project / Study Areas in 2022"</i> | The "two target project/study areas" are not clearly identified/illustrated within the EA document. Is this statement an error carried over from the original Project Description? DFO Recommends revision of text for clarification. |
| 2 | Page 2.1; Section 2.1; paragraph 2 | <i>Final survey location maps will be submitted to the C-NLOPB four to six weeks prior to acquisition start-up. Prior to conducting the survey, an array of receivers will be placed on the seabed approximately 1 to 3 km apart.</i> | In DFO's response to the C-NLOPB in Jan. 2022 pertaining to the Department's review of the project description and draft scoping document, DFO identified that " A detailed description of the project and components should be included within the EA Report, and include the number of receiver anchors to be placed on the seafloor at each Project/Study Area, a diagram of the anchor grid pattern, and mitigations to avoid impacts to corals/sponges, specifically within the Northeast Newfoundland Slope ". DFO acknowledges that additional information will be submitted four to six weeks prior to acquisition start-up, however, please note that DFO will require the outstanding information to complete a <i>Fisheries Act</i> review related to works, activities or undertakings proposed within the boundaries of the Northeast Slope Marine Refuge, which has been establish under the <i>Fisheries Act</i> for the conservation and protection of benthic communities, specifically corals and sponges. DFO will require time to complete a <i>Fisheries Act</i> review, and encourage the operator to provide the outstanding information as |
| 3 | Page 2.4; Section 2.3; Paragraph 1 | <i>The Project is planned to be conducted in summer / fall 2022, pending authorization from the C-NLOPB. It is estimated that the Project (surveying both Project / Study Areas within one season) will require less than 30 days to complete (not including downtime associated with weather).</i> | This statement identifies an estimated timeline of 30 days to complete survey operations at "both Project/Study Areas". Please provide clarification with respect to "both project areas" (See comment #1). Please confirm that the 30 day timeline is accurate for activities planned for summer/fall 2022? |

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| 4 | Page 2.6; Section 2.4.3; Paragraph 1 | <i>"During the survey, CSEM seabed nodes (receivers) are deployed on the seabed along towlines. It takes approximately 1 hour to deploy a receiver and the same for recovery in the Project/Study Area water depths. It is anticipated that 54 to 131 receivers would be used in the survey (Table 2.3). The general composition of the node consists of a data acquisition unit, electrical and magnetic sensors, and a positioning transponder, all attached to compacted sand anchor (920mm x 810 mm x 102 mm) in order to provide negative buoyancy during deployment and stability while on the seafloor; the anchors are each approximately 0.75m² and remain on the seafloor after receiver retrieval (Figure 2-4). Approximately 40 to 100 m² of seabed will be affected by the anchors, which will dissolve within 4 to 12 months of placement."</i> | A diagram or map of expected receiver/anchor placement should be included in this section. See comment # 2 |
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| 5 | Page 2.7; Section 2.4.3; Paragraph 3 | <i>These anchors are expected to deteriorate on the sea floor within approximately 4 to 12 months, depending on seawater temperatur.</i> | <p>DFO anticipates that a number of receivers will be deployed within the boundaries of the Northeast Newfoundland Slope Closure (Marine Refuge). The Northeast Newfoundland Slope Closure is an Other Effective Conservation Measure (OECM) established through the <i>Fisheries Act</i> for the purposes of conserving and protecting corals and sponges and contributing to the long term conservation of biodiversity.</p> <p>The deployment of the receivers have potential to damage and/or crush coral and sponges species in the Marine Refuge. Furthermore the deterioration of the concrete anchors leave behind material classified as deleterious substances in larger quantities with respect to fish and fish habitats.</p> <p>To offset potential destruction and/or damage to coral and sponges as a result of receiver placement and to avoid localized impacts to corals and sponges in the vicinity of the anchor location as a result of anchor deterioration, DFO is requesting that the operator consider deployment of a number of anchors within the Marine Refuge that are constructed of concrete that will not deteriorate and remain as permanent structures to promote the colonization of corals and provided additional fish habitat.</p> |
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| 6 | Page 2.12; Section 2.6; Bullet #6 & Page 6.2; Section 6.1.3; Bullet #3 | <p><u>Section 2.6</u></p> <ul style="list-style-type: none"> <i>The EM source will be ramped up over a 20-minute period. In areas where water depth is greater than 500 m, the EM source will not be initiated if a shark, marine mammal or sea turtle is observed 30 minutes prior to ramp-up within a 500 m safety zone of the energy source. Ramp-up will not occur until the animal has moved beyond the 500 m zone or 20 minutes have elapsed since the last sighting.</i> <p><u>Section 6.1.3</u></p> <ul style="list-style-type: none"> <i>The EM source will be ramped up over a 20-minute period. Regardless of water depth, the electromagnetic source will not be initiated if a shark, marine mammal, or sea turtle is observed 30 minutes prior to ramp-up within a 500 m safety zone. Ramp-up will not occur until the animal has moved beyond the 500 m zone or 30 minutes have elapsed since the last sighting...</i> | <p>DFO notes a discrepancy between the mitigations outlined in Section 2.6 and Section 6.1.3 and recommend editing mitigations for consistency and alignment with mitigation outlined in the Statement of Canadian Practice with respect to the Mitigation of Seismic Sound in the Marine Environment (SOCP).</p> <p>Note that the SOCP currently does not specify procedures pertaining to water depths and states that ramp up shouldn't commence until none of the species, identified in Section 7 of the SOCP, are identified in the safety zone for at least 30 minutes.</p> <p>DFO acknowledges that the SOCP may not apply to specifically to Controlled-source Electromagnetic Surveys but encourages the operator to apply SOCP mitigations where appropriate. A clear rationale should be provided for mitigations that deviate from the SOCP.</p> |
| 7 | Page 2.12; Section 2.6; Bullet #7 | <i>"In areas where water depths are less than 500m, the EM source will be shut down if a SARA-listed species is observed within 500m of the energy source."</i> | The SOCP specifies that the energy source is shut down immediately if a marine mammal or sea turtle listed as endangered or threatened on Schedule 1 of the SARA is observed within the 500m safety zone and does not identify specific water depths which this condition applies. DFO recommends revision of text to align with the SOCP. |
| 8 | Page 4.6; Section 4.2.2; Paragraph 1 | <i>More than 70 species of deep-sea cold-water corals (IAAC 2021) and more than 60 species of sponges</i> | Note the reference below which identifies that 150 species of sponges have been observed across the continental shelf, in troughs, valleys, and canyons, as well as along the shelf edge in the waters off NL (Edinger et al., 2011; Sherwood & Edinger, 2009). |

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| 9 | Page 4.7; Section 4.2.2; Figure 4-1 | N/A | The Northeast Newfoundland Slope Closure (Marine Refuge) is not depicted on Figure 4-1 or identified in the Section 4.2.2 text. The Northeast Newfoundland Slope Closure is an Other Effective Conservation Measure (OECM) established through the <i>Fisheries Act</i> for the purposes of conserving and protecting corals and sponges and contribute to the long term conservation of biodiversity. Additional information can be found at https://www.dfo-mpo.gc.ca/oceans/oecm-amcepz/refuges/northeastnewfoundlandslope-talusnordestdeterreneuve-eng.html . DFO recommends that the Northeast Newfoundland Slope Closure boundary be included in Figure 4-1 and proposed project interactions inside the Marine Refuge identified and considered throughout the EA. |
| 10 | Page 5.2; Section 5.1; Paragraph 3 | <i>Refer to Figure 2-1 for a depiction of the Project / Study Area and Regional Area</i> | Figure 2-1 does not depict the project/study area and Regional Area. Please reference the appropriate figure. |
| 11 | Page 5.2; Section 5.2 | <p><i>"Based on the results of the issues scoping exercise described above, the following VCs are considered in this EA document:</i></p> <ul style="list-style-type: none"> <i>• Marine Fish and Shellfish</i> <i>• Marine Mammals and Sea Turtles</i> <i>• Marine and/or Migratory Birds</i> <i>• Species at Risk</i> <i>• Fisheries and Other Ocean Users"</i> | Section 6.5 Sensitive Area have been omitted from the list of VCs. DFO recommend editing to include Sensitive Areas as a VC. |
| 12 | Page 6.25; Section 6.5.4; Paragraph 1 | <i>Because of the anticipated schedule, Project activities are not expected to overlap with sensitive time periods of key resources for some of the Sensitive Areas found within the Project / Study Area.</i> | Please elaborate on this statement and identify the Sensitive Area and specific sensitive time periods of key resource that are avoided a result of project scheduling. |

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| 13 | Page 6.6; Section 6.2.3 | <p><i>"The following mitigation measures will be used to reduce adverse environmental effects on Marine Mammals and Sea Turtles:</i></p> <ul style="list-style-type: none"> <i>• An SMMO will be on board to record marine mammal and sea turtle observations and oversee rampup procedures.</i> <i>• The EM source will be ramped up over a 20-minute period. In areas where water depths are greater than 500 m, the EM source will not be initiated if a marine mammal or sea turtle is observed 30 minutes prior to ramp-up within a 500 m safety zone of the energy source. Ramp-up will not occur until the animal has moved beyond the 500 m zone or 20 minutes have elapsed since the last sighting.</i> <i>• The EM source will be turned off when data are not being collected (e.g., during vessel turns).</i> <i>• Vessel waste discharges will be managed in accordance with MARPOL.</i> <i>• Low vessel speed (4 to 5.5 km/hr [2 to 3 knots]) will reduce underwater noise and the risk of collision with marine mammals and sea turtles.</i> <i>• Dead or distressed marine mammals or sea turtles and SARA-listed species will be reported to the CNLOPB and DFO."</i> | <p>Recommend editing mitigations for consistency and alignment with mitigation outlined in the <i>Statement of Canadian Practice with respect to the Mitigation of Seismic Sound in the Marine Environment</i> (SOCP).</p> <p>Please include mitigations pertaining to shut down of energy source if a marine mammal or sea turtle listed as endangered or threatened on Schedule 1 of the SARA is observed within the 500m safety zone.</p> <p>Note that the SOCP currently does not specify procedures pertaining to water depths.</p> |
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