

**ANNEX 1: Advice to the Agency**

**Table 1: Please use the table below to provide advice for the Agency’s consideration in its recommendation to the Minister of Environment and Climate Change and preparation of draft conditions**

Questions	Responses/Comments
<ul style="list-style-type: none"> <li>Has the proponent described all project components and activities in sufficient detail to understand all relevant project-environment interactions? If not, identify what additional information is needed.</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Were the study areas sufficient to predict potential effects from all relevant project-environment interactions, and to consider the effects within a local and regional context?</li> <li>Is the baseline information sufficient to characterize the existing environment, predict potential effects and obtain monitoring objectives? If not, identify what additional information is needed.</li> </ul>	Yes
<b>Alternatives Assessment</b>	
<ul style="list-style-type: none"> <li>Has the proponent adequately described the criteria it used to determine the technically and economically feasible alternative means?</li> <li>Has the proponent listed the potential effects to valued components (VCs) within your mandate that could be affected by the technically and economically feasible alternative means?</li> <li>Has the proponent adequately described why it chose each preferred alternative means?</li> <li>Are there other alternative means that could have been presented? If so, please describe.</li> </ul>	Yes
<b>Environmental Effects Assessment</b>	
<ul style="list-style-type: none"> <li>Has the proponent clearly described all relevant pathways of effects to be taken into account under section 5 of CEAA 2012?</li> <li>Has the proponent identified all potential effects to VCs, including species at risk, within your mandate?</li> <li>Were all potential receptors considered?</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Were the methodologies used by the proponent appropriate to collect baseline data and predict effects, why or why not?</li> <li>Has the proponent explicitly addressed the degree of scientific uncertainty related to the data and methods used within the assessment? If there are scientific uncertainties which are unaccounted for, describe them and indicate the options for increasing certainty in the predictions.</li> </ul>	Yes

Questions	Responses/Comments
<ul style="list-style-type: none"> <li>Are the predicted effects described in objective and reasonable terms (e.g. beneficial or adverse, temporary or permanent, reversible or irreversible)?</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Has the proponent adequately assessed the potential cumulative environmental effects, including using appropriate temporal and spatial boundaries, examining physical activities that have been and will be carried out, and proposing mitigation and follow-up program requirements? Provide rationale.</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Has the proponent adequately described the potential for environmental effects caused by accidents and malfunctions, including the types of accidents and malfunctions, their likelihood and severity and the associated potential environmental effects? If not, identify what additional information is needed.</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Are you satisfied with the proponent's assessment of effects of the environment on the Project?</li> <li>Has the proponent characterized the likelihood and severity appropriately? Provide rationale.</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Has the proponent sufficiently described and characterized the project activities and components as they relate to federal decisions within your mandate? If not, identify what additional information is needed.</li> <li>Are changes to the environment, as they relate to federal decisions within your mandate, sufficiently described? If not, identify what additional information is needed.</li> </ul>	
<b>Mitigation</b>	
<ul style="list-style-type: none"> <li>Has the degree of uncertainty regarding the effectiveness of the proposed mitigation measures been described? If not, identify what information is needed.</li> <li>Is it clear how each proposed mitigation measure links to each potential pathway of effect?</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Would you propose different or additional mitigation measures? If so, provide a description of the mitigation measure(s), with rationale.</li> </ul>	Some slight adjustments to proposed mitigation have been suggested to be consistent with previous conditions for similar projects.
<ul style="list-style-type: none"> <li>Which of the proposed mitigation measures and/or project design elements do you consider to be necessary to reduce the likelihood of significant adverse environmental effects? Provide rationale.</li> </ul>	
<b>Residual Adverse Environmental Effects</b>	
<ul style="list-style-type: none"> <li>Are the identification and documentation of residual environmental effects described by the proponent adequate? If not, what are the aspects for which there is uncertainty and, where</li> </ul>	<b>Yes</b>

Questions	Responses/Comments
possible, indicate how these residual effects can be best described. If there is uncertainty, what are the options for increasing certainty?	
<ul style="list-style-type: none"> <li>Did the proponent provide a sufficiently precise, ideally quantitative, description of the residual environmental effects related to your mandate? Identify any areas that are insufficient.</li> </ul>	<b>Yes</b>
<b>Determination of Significance</b>	
<ul style="list-style-type: none"> <li>Are the conclusions on significance in the EIS supported by the analysis that is provided?</li> <li>Are the proponent's proposed criteria for assessing significance appropriate? This includes how the criteria were characterized, ranked, and weighted. Provide rationale. Where the proponent has <b>not</b> used one of the Agency's recommended key criteria (magnitude, geographic extent, duration, frequency, reversibility, and social/ecological context), has a rationale been provided?</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Were appropriate methodologies used in developing the conclusions on significance?</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Do you agree with the proponent's analysis and conclusions on significance? Provide rationale.</li> </ul>	Yes
<b>Monitoring and Follow-up</b>	
<ul style="list-style-type: none"> <li>Does the proposed monitoring and follow-up program verify the predictions of the environmental assessment as they relate to section 5? Please explain additional monitoring or follow-up needed to address uncertainty in the effects assessment.</li> </ul>	Yes, although slight modifications have been suggested to ensure consistency with conditions from other similar projects.
<ul style="list-style-type: none"> <li>Does the proposed monitoring and follow-up program verify the effectiveness of proposed mitigations as they relate to section 5? Please explain additional monitoring or follow-up needed to address uncertainty in the proposed mitigation.</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Is the objective of the follow-up program clear and measurable?</li> <li>Does the follow-up program include sufficient detail, and technical merit, for the Agency to achieve the stated objective through a condition (e.g. sufficient baseline dataset, monitoring plans, acceptable thresholds of change, contingency procedures)?</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Are you aware of any federal or provincial authorizations or regulations that will achieve the same follow-up program objective(s)? If so, how do these achieve the objective(s)?</li> </ul>	No
<b>Additional comments, views, advice</b>	
<ul style="list-style-type: none"> <li>Provide any other comments.</li> </ul>	
<p>Status of Leach's Storm-petrel - The proponent was not required to list IUCN-listed species (as per the EIS Guidelines), but ECCC notes that it is particularly important to consider the status of Leach's Storm-petrel given that species will be undergoing COSEWIC assessment in Fall 2020 (likely to be listed as Endangered).</p>	

Questions	Responses/Comments
<ul style="list-style-type: none"> <li>• Section 9.3.1.2 – Mitigations (PDF page 61, document page 9-10)</li> </ul> <p>ECCC requests that the proposed mitigation be made consistent with Recommendation 2 of the <i>Regional Assessment of Offshore Oil and Gas Exploratory Drilling East of Newfoundland and Labrador Final Report</i>, February 2020. ECCC suggests the following wording (see underlined changes):</p> <ul style="list-style-type: none"> <li>• <i>“BHP, in consultation with Environment and Climate Change Canada (ECCC) Canadian Wildlife Service (CWS), will develop a protocol for systematic, daily searches for seabirds stranded on the MODU and PSVs, which will include documentation of search effort. Seabirds found will be recovered, released and documented <u>by trained and experienced observers whose primary responsibility is to make observations and collect seabird data during the Project</u>, in accordance with the methods in Procedures for Handling and Documentation Stranded Birds Encountered on Infrastructure Offshore Atlantic Canada (ECCC 2017a). BHP will provide training in these protocols and procedures. A Seabird Handling Permit will be obtained from ECCC-CWS annually. In accordance with ECCC requirements, an annual report and all occurrence data that summarizes stranded and/or seabird handling occurrences will be submitted to ECCC.”</i></li> <li>• <i>“BHP will monitor daily for the presence of marine birds from the drilling installation using a trained, <u>experienced</u> observer following Environment and Climate Change Canada’s Eastern Canada Seabirds at Sea Standardized Protocol for Pelagic Seabird Surveys from Moving and Stationary Platforms and monitor for the presence of stranded birds and follow Environment and Climate Change Canada’s Procedures for Handling and Documenting Stranded Birds Encountered on Infrastructure Offshore Atlantic Canada.”</i></li> </ul>	
<p>Section Section 15.6.2.3 – Characterization of Residual Project-Related Environmental Effects – Subsurface Blowout</p> <ul style="list-style-type: none"> <li>• ECCC notes that a recently published reference (Lieske et al. 2019) discusses the vulnerability of migratory birds in the western North Atlantic to accidental oiling events and could be considered in the completion of the EA Report.</li> </ul>	

Questions	Responses/Comments
<p>Lieske, D.J., McFarlane Tranquilla, L., Ronconi, R., and Abbott, S. (2019). Synthesizing expert opinion to assess the at-sea risks of seabirds in the western North Atlantic. <i>Biological Conservation</i>. 223: 41-50.</p>	

**ANNEX 2: Information requirements directed to the proponent**

**Table 2: Please use the table below to provide your department’s comments and suggestions for information that should be required from the proponent to ensure the information in the EIS is scientifically and technically accurate and is sufficient to make a determination of significance on environmental effects.**

ID	Project Effects Link to CEAA 2012	Reference to EIS guidelines	Reference to EIS	Context and Rationale	Specific Question/ Request for Information
ECCC-1	5(1)(a)(iii) Migratory Birds		<p>Section 9.3.1.3 – Characterization of Residual Project-related Environmental Effects – Presence and Operation of a MODU (PDF page 66, document page 9-15</p> <p>Section 11.3.1.3 – Characterization of Residual Project-related Environmental Effects – Presence and Operation of a MODU (PDF page 162, document page 11-15)</p>	<p>The proponent has inconsistently reflected and interpreted the results of the Rodriguez et al. 2014 study referenced in these paragraphs – the Rodriguez et al 2014 and 2015 studies concluded that birds were attracted to the light source from up to 16 km.</p> <p>It is also important to note that considerable uncertainty remains as to the actual zone of influence of light. There have been no studies undertaken on the maximum light detection distance of the eyes of migratory birds. Furthermore, no studies have been undertaken that describe how far away from a light source a migratory bird must be before light affects its behaviour.</p>	<p>ECCC requests that the zone of influence for light attraction be correctly and consistently presented.</p> <p>Additionally, ECCC requests consideration of the uncertainty that remains in how far away birds detect light and how far away bird behaviour is altered by light.</p>

ECCC-2	5(1)(a)(iii) Migratory Birds		<p>Section 15.3 – Fate and Behaviour of Potential Spills; Table 15.4 (PDF page 13; document page 15-13)</p> <p>Section 15.6.2.3 - Characterization of Residual Project-Related Environmental Effects – Subsurface Blowout (PDF page 108; document page 15-108)</p>	ECCC agrees that 10 g/m <sup>2</sup> is a valid threshold for “mortality of birds”, as noted in the EIS. However, negative impacts to birds, via disruption of feather structure, etc., may also occur at much lower thresholds of oil thickness (such as sheens).	ECCC requests that consideration be given to the negative impacts of surface oil on marine and migratory birds may occur at lower thresholds of oil thickness, with specific reference to O’Hara and Morandin 2010 and Morandin and O’Hara 2016.
ECCC-3	5(1)(a)(iii) Migratory Birds		Section 15.6.2.1 – Project Pathways for Effects – Potential Effects of an Oil Spill on Marine and	The proponent’s synthesis of the effects of dispersants on marine and migratory birds provides conflating information and does not provide sufficient evidence to support the conclusion that “dispersant mitigates the potential adverse effects of oil on birds compared to	ECCC requests that the proponent correctly interpret and report the results of Whitmer et al. 2018.  Additionally, ECCC requests that the proponent consider

			<p>Migratory Birds</p> <p>Quote (PDF page 106, document page 15-106)</p>	<p>untreated oil". While applying dispersants may be beneficial for migratory birds in some situations, they may prove to be more harmful in others.</p> <p>The proponent has incorrectly interpreted and reported the results of Whitmer et al. 2018. While it is correct that the effect of oil alone and the mixture of dispersant and oil were not significantly different, the study clearly states that the effects did not "resolve over time". Whitmer et al. 2018 notes <i>"Birds exposed to oil, or dispersant and oil mixture, experienced dose-dependent waterproofing impairment without resolution over two days"</i> and <i>"the impacts of oil and dispersed oil did not improve over time"</i>.</p> <p>It is also difficult to compare the results of the Whitmer et al. 2018 study (conducted in a laboratory) to what may occur in the offshore areas of NL. Specifically, in Whitmer et al. 2018, post-exposure</p>	<p>the effects of dispersants in colder water temperatures in their conclusion of the effects of dispersants on marine and migratory birds.</p>
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				birds were kept out of the water and in ambient temperatures of 15.5°C-18.3°C, whereas any birds exposed to dispersants in the Project Area would be confined to water in much colder temperatures. The proponent should include consideration of the effects of dispersants in colder water temperatures in their conclusion.	
ECCC-4	5(1)(a)(iii) Migratory Birds		Section Section 15.6.2.3 – Characterization of Residual Project-Related Environmental Effects – Subsurface Blowout (PDF page 108; document 15-108) (PDF page 109; document page 15-109)	The proponent notes that the risk of adverse seabird interactions is more prevalent in the winter month, however, the project characteristically takes place in colder waters.	ECCC requests that the proponent include additional information in the quoted statements above to clarify that hypothermia and mortality of oiled migratory birds will increase in colder waters, which are characteristic of the Project Area, with specific reference to Tuarze et al. 2019.  Tuarze, P., M. Stephenson, P. Mazzocco, and L.

					Knopper. (2019). A physiologically based oiling model (PBOM) to predict thermoregulatory response in oiled birds. Proceedings of the 42 <sup>nd</sup> AMOP Technical Seminar, Environment and Climate Change Canada, ON, Canada, pp. 111-123.
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***ANNEX 3: Advice to the proponent***

**Table 3: Additional advice to the proponent, such as guidance or standard advice related to your departmental mandate**

ID	Reference to EIS	Context and Rationale	Advice to the Proponent