



Fisheries and Oceans
Canada

Pêches et Océans
Canada

PO Box 5667
St. John's NL A1C 5X1

Your File Votre référence

Our File Notre référence
BAB 3970-175

April 4th, 2011

Ms. Elizabeth Young
Environmental Assessment Officer
Canada-Newfoundland and Labrador Offshore Petroleum Board
5th Floor TD Place 140 Water St.
St. John's NL A1C 6H6

Dear Ms. Young:

Re: ExxonMobil Canada Properties – Hebron Project Draft Comprehensive Study Report:
Response to Review Comments, Part 1

In response to your request dated March 21st, 2011, the Department of Fisheries and Oceans (DFO) has reviewed the "*Comprehensive Study Report: Response to Review Comments, Part 1*", for the ExxonMobil Canada Properties Hebron Project.

Please be advised that DFO has concluded that most of the responses provided by ExxonMobil are adequate, however, included below for your consideration are DFO comments on responses which may require additional information/clarification.

Specific Comments

Comment 12: DFO 1

This response is considered adequate.

Comment 13: DFO 2

This response is considered adequate.

Comment 66: DFO 6

This response is considered adequate.

Comment 69: DFO 7

This response is considered adequate.

Comment 72: DFO 10

This response is considered adequate.

Comment 75: DFO 13

This response is considered inadequate.

As indicated in the previous two rounds of comments, information provided in the tables needs to be discussed in the text within Section 7.5. While the revisions provided in the proponent's most recent response addresses some of DFO concerns, further information is still required for some activities. These additional revisions may be addressed through new text or cross-referencing applicable information from other sections. The tables below outline the requested revisions, which have been made based on information contained in Tables 7-11 to 7-14.

Revisions required to Section 7.5 of CSR based on information contained in Table 7-11

Nearshore Project Activities for Construction and Installation	
Project Activity	Requested Revision
Presence of Safety Zone	Acceptable
Bund Wall Construction (e.g., sheet/pile driving, infilling, etc.)	<p><i>"Chemistry of rock and till material will be tested prior to placement"</i> should be added as a mitigation to Section 7.5.1.2 (Contamination).</p> <p><i>"Potential Mortality"</i> should be discussed in Section 7.5.1.4.</p>
In-Water Blasting	<p>The mitigations provided in Section 7.5.1.2 (Noise and Blasting) on p. 7-55 do not include all the mitigations contained within Wright and Hopky 1998. The proponent should reword this section to indicate that this list is not exhaustive and that the Wright and Hopky document should be referenced for a complete listing.</p> <p><i>"Consultation with DFO on blasting plans prior to use"</i> should be added as a mitigation to Section 7.5.1.2 (Noise and Blasting).</p> <p><i>"Compliance with Section 32 of the Fisheries Act as detailed in the Section 35(2) Fisheries Act Authorization"</i> should be added as a mitigation to Section 7.5.1.2 (Noise and Blasting).</p>

Dewater Drydock/Prep of Drydock Area	<p>“Change in Habitat Use” should be discussed in Section 7.5.1.3.</p> <p>References related to the effect of dewatering on fish as well as the EPP and Fish Relocation Program should be made in Section 7.5.1.4, not Section 7.5.1.1 as indicated in the proponent’s response to Comment 80: DFO 15.</p>
Concrete Production (floating batch plant)	“Change in Habitat Use” should be discussed in Section 7.5.1.3.
Vessel Traffic (e.g., supply, tug support, tow, diving support, barge, passenger ferry to/from deepwater site, etc.)	“Procedures will be in place specifying speed for vessels within the traffic lane in Bull Arm” should be added as a mitigation to Section 7.5.1.3.
Lighting	Acceptable
Re-establish Moorings at Bull Arm Deepwater Site	“Change in Habitat Use” should be discussed in Section 7.5.1.3.
Dredging of Bund Wall and Possibly Sections of Tow-out Route (may require at-sea disposal)	“Dredging of Bund Wall and Possibly Sections of Tow-out Route” should be added to the list of activities in Section 7.5.1.2 (Suspended Sediment).
Removal of Bund Wall and Disposal (dredging/ocean disposal)	Acceptable
Tow-out of GBS to Bull Arm Deepwater Site	Acceptable
GBS Ballasting and De-ballasting (sweater only)	<p>“Change in Habitat Use” should be discussed in Section 7.5.1.3.</p> <p>“Potential Mortality” should be discussed in Section 7.5.1.4.</p> <p>“Intake of water at depth (10 m, below most productive zone) and adhering to the Freshwater End-of-Pipe Fish Screen Guidelines” should be added as mitigations to Section 7.5.1.4.</p>
Complete GBS Construction and Mate Topsides at Bull Arm Deepwater Site	Acceptable
Hook-up and Commissioning of Topsides	Acceptable
Surveys (e.g., geophysical, geological, geotechnical, environmental, etc.)	“Survey equipment and vessels will only use the power required to attain the data, thereby minimizing noise” should be added as a mitigation to Section 7.5.1.3.
Platform Tow-out from Deepwater Site	Acceptable
Offshore Project Activities for Construction and Installation	

Presence of Safety Zone	Acceptable
OLS Installation and Testing	<p>It should be noted in Section 7.5.1.1 that OLS installation could result in a HADD of fish habitat thereby requiring a Section 35(2) <i>Fisheries Act</i> Authorization.</p> <p><i>“Change in Habitat Use”</i> should be discussed in Section 7.5.1.3.</p> <p><i>“Efficient installation with minimal seabed disturbance”</i> should be added as a mitigation to Section 7.5.1.2 (Suspended Sediment).</p>
Concrete Mattress Pads/Rock Dumping over OLS Offloading Lines	<p><i>“Change in Habitat Quality”</i> should be discussed in Section 7.5.1.2.</p> <p><i>“Change in Habitat Use”</i> should be discussed in Section 7.5.1.3.</p> <p><i>“Efficient installation with minimal seabed disturbance”</i> should be added as a mitigation to Section 7.5.1.2 (Suspended Sediment).</p>
Installation of Temporary Moorings	<p><i>“Change in Habitat Quality”</i> should be discussed in Section 7.5.1.2.</p> <p><i>“Change in Habitat Use”</i> should be discussed in Section 7.5.1.3.</p>
Platform Tow-out/Offshore Installation	<p>It should be noted in Section 7.5.1.1 that installation of the GBS could result in a HADD of fish habitat thereby requiring a Section 35(2) <i>Fisheries Act</i> Authorization.</p> <p><i>“Change in Habitat Use”</i> should be discussed in Section 7.5.1.3.</p>
Underbase Grouting	<i>“Change in Habitat Quality”</i> should be discussed in Section 7.5.1.2.
Possible Offshore Solid Ballasting	<i>“Change in Habitat Quality”</i> should be discussed in Section 7.5.1.2.
Placement of Rock Scour Protection on Seafloor around Final Hebron Platform Location	<p>In Section 7.5.1.1 (Offshore), <i>“Rock scour protection on seafloor around the final Hebron platform location”</i> should be added to the discussion on offshore activities that could affect habitat quantity.</p> <p><i>“Change in Habitat Quality”</i> should be</p>

	<p>discussed in Section 7.5.1.2.</p> <p><i>“Change in Habitat Use”</i> should be discussed in Section 7.5.1.3.</p> <p>In the second paragraph on p.7-61, <i>“rock scour protection on seafloor around the final Hebron platform location”</i> should be added to the list of activities that could smother sessile invertebrates.</p>
Hook-up and Commissioning of Hebron Platform	Acceptable
Operation of Vessels (supply, support, standby and tow vessels/barges/diving)	<i>“Change in Habitat Use”</i> should be discussed in Section 7.5.1.3.
Lighting	Acceptable
Potential Future Activities for Construction and Installation	
Presence of Safety Zone	Acceptable
Excavated Drill Centre Dredging and Spoils Disposal	<p>It should be noted in Section 7.5.1.1 that the construction of excavated drill centres and subsequent spoils disposal could result in a HADD of fish habitat thereby requiring a Section 35(2) <i>Fisheries Act</i> Authorization.</p> <p><i>“Change in Habitat Use”</i> should be discussed in Section 7.5.1.3.</p>
Installation of Pipeline(s)/Flowline(s) and Testing from Excavated Drill Centre(s) to Platform, plus Concrete Mattresses, Rock Cover or Other Flowline Insulation	<p>It should be noted in Section 7.5.1.1 that the installation of flowlines could result in a HADD of fish habitat thereby requiring a Section 35(2) <i>Fisheries Act</i> Authorization.</p> <p>Reference should be made in Section 7.5.1.1 (Future Activities: Construction) to the discussion on the effect of flowline protection in Section 7.5.1.1 (Offshore) as it is also applicable.</p> <p><i>“Efficient installation with minimal seabed disturbance”</i> should be added as a mitigation to Section 7.5.1.2 (Suspended Sediment).</p> <p><i>“Change in Habitat Use”</i> should be discussed in Section 7.5.1.3.</p>
Hook-Up, Production Testing and Commissioning of Excavated Drill Centres	<i>“Change in Habitat Use”</i> should be discussed in Section 7.5.1.3.

	<i>“Implement chemical selection management system” and “Adherence to regulatory limits with respect to discharges in to marine waters” should be added as mitigations in Section 7.5.1.3.</i>
Surveys (e.g., geophysical, geological, geotechnical, environmental, ROV, diving, etc.)	Acceptable

Revisions required to Section 7.5 of CSR based on information contained in Table 7-12

Offshore Operational Activities	
Project Activity	Requested Revision
Presence of Safety Zone	Acceptable
Presence of Structures	Acceptable
Lighting	Acceptable
Maintenance Activities (e.g., diving, ROV, etc.)	<i>“Change in Habitat Use” should be discussed in Section 7.5.2.3.</i>
Wastewater (produced water, cooling water, storage displacement water, etc.)	<i>“Change in Habitat Use” should be discussed in Section 7.5.2.3.</i>
Chemical Use/Management/Storage (e.g., corrosion, inhibitors, well treatment fluids, etc.)	<i>“Change in Habitat Use” should be discussed in Section 7.5.2.3.</i>
Well Activities (well completion, work overs, etc.)	<i>“Change in Habitat Quality” should be discussed in Section 7.5.2.2.</i> <i>“Change in Habitat Use” should be discussed in Section 7.5.2.3.</i>
WBM Cuttings	<i>“Change in Habitat Quantity” should be discussed in Section 7.5.2.1.</i> <i>“Change in Habitat Use” should be discussed in Section 7.5.2.3.</i>
Operation of Vessels (supply, support, standby and tow vessels/barges/ROVs)	Acceptable
Surveys (e.g., geophysical, 2D/3D/4D seismic, VSP, geohazard, geological, geotechnical, environmental, ROV, diving, etc.)	Section 7.5.2.3 indicates that standard seismic mitigation measures will be applied, however there should be specific reference to the <i>“Statement of Canadian Practice on Mitigation of Seismic Noise in the Marine Environment”</i> .
Potential Future Operational Activities	
Presence of Structures	Acceptable
Drilling Operations from MODU at Future Excavated Drill Centres	<i>“Change in Habitat Quantity” should be discussed in Section 7.5.2.1.</i>
WBM and SBM Cuttings	<i>“Change in Habitat Quantity” should be</i>

	discussed in Section 7.5.2.1. “ <i>Change in Habitat Use</i> ” should be discussed in Section 7.5.2.3.
Chemical Use and Management (BOP fluids, well treatment fluids, corrosion inhibitors etc.)	“ <i>Change in Habitat Use</i> ” should be discussed in Section 7.5.2.3.
Geophysical/Seismic Surveys	Section 7.5.2.3 indicates that standard seismic mitigation measures will be applied, however there should be specific reference to the “ <i>Statement of Canadian Practice on Mitigation of Seismic Noise in the Marine Environment</i> ”.

Revisions required to Section 7.5 of CSR based on information contained in Table 7-13

Offshore Decommissioning and Abandonment Activities	
Project Activity	Requested Revision
Presence of Safety Zone	Acceptable
Removal of the Hebron Platform and OLS Loading Points	The statement, “ <i>Use of best practices, continuous improvement programs</i> ” should be added to Section 7.5.3.
Lighting	“ <i>Change in Habitat Use</i> ” should be discussed in Section 7.5.3.3.
Plugging and Abandoning Wells	The statement, “ <i>Use of best practices, continuous improvement programs</i> ” should be added to Section 7.5.3.
Abandoning the OLS Pipeline	The statement, “ <i>Use of best practices, continuous improvement programs</i> ” should be added to Section 7.5.3.
Operation of Vessels (supply, support, standby and tow vessels/barges/ROVs)	Reference to this activity needs to be made in Section 7.5.3.3.
Surveys (e.g., geophysical, 2D/3D/4D seismic, VSP, geohazard, geological, geotechnical, environmental, ROV, diving, etc.)	Reference to this activity needs to be made in Section 7.5.3.3.

Revisions required to Section 7.5 of CSR based on information contained in Table 7-14.

Offshore Decommissioning and Abandonment Activities	
Project Activity	Requested Revision
Bund Wall Rupture	Sections 7.5.4.1 through 7.5.4.4 refer to “ <i>accidental release of hydrocarbons</i> ”, “ <i>accidental events</i> ” and “ <i>hydrocarbon spills</i> ”. Each section should explicitly state which specific activities listed in Table 7-14 these terms refer to.

	<p>“<i>Change in Habitat Quality</i>” should be discussed in Section 7.5.4.2.</p> <p>“<i>Change in Habitat Use</i>” should be discussed in Section 7.5.4.3.</p>
Nearshore Spill	Sections 7.5.4.1 through 7.5.4.4 refer to “ <i>accidental release of hydrocarbons</i> ”, “ <i>accidental events</i> ” and “ <i>hydrocarbon spills</i> ”. Each section should explicitly state which specific activities listed in Table 7-14 these terms refer to.
Failure or Spill from OLS	Sections 7.5.4.1 through 7.5.4.4 refer to “ <i>accidental release of hydrocarbons</i> ”, “ <i>accidental events</i> ” and “ <i>hydrocarbon spills</i> ”. Each section should explicitly state which specific activities listed in Table 7-14 these terms refer to.
Subsea Blowout	Sections 7.5.4.1 through 7.5.4.4 refer to “ <i>accidental release of hydrocarbons</i> ”, “ <i>accidental events</i> ” and “ <i>hydrocarbon spills</i> ”. Each section should explicitly state which specific activities listed in Table 7-14 these terms refer to.
Crude Oil Surface Spill	Sections 7.5.4.1 through 7.5.4.4 refer to “ <i>accidental release of hydrocarbons</i> ”, “ <i>accidental events</i> ” and “ <i>hydrocarbon spills</i> ”. Each section should explicitly state which specific activities listed in Table 7-14 these terms refer to.
Other Spills (fuel, chemicals, drilling muds, or waste materials on the drilling unit, GBS, Hebron Platform)	<p>Sections 7.5.4.1 through 7.5.4.4 refer to “<i>accidental release of hydrocarbons</i>”, “<i>accidental events</i>” and “<i>hydrocarbon spills</i>”. Each section should explicitly state which specific activities listed in Table 7-14 these terms refer to.</p> <p>“<i>Change in Habitat Use</i>” should be discussed in Section 7.5.4.3 (specifically, but not limited to, drilling muds).</p> <p>“<i>Change in Fish Mortality</i>” should be discussed in Section 7.5.4.4 (specifically, but not limited to, drilling muds).</p>
Marine Vessel Incident (i.e., fuel spills)	Sections 7.5.4.1 through 7.5.4.4 refer to “ <i>accidental release of hydrocarbons</i> ”, “ <i>accidental events</i> ” and “ <i>hydrocarbon</i>

	<p><i>spills</i>". Each section should explicitly state which specific activities listed in Table 7-14 these terms refer to.</p> <p><i>"Ship operations will adhere to Annex I of the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)"</i> should be added as a mitigation to Section 7.5.4.</p> <p><i>"Change in Habitat Quality"</i> should be discussed in Section 7.5.4.2.</p>
Collisions (involving Hebron Platform, vessel, and/or iceberg)	<p>Sections 7.5.4.1 through 7.5.4.4 refer to <i>"accidental release of hydrocarbons"</i>, <i>"accidental events"</i> and <i>"hydrocarbon spills"</i>. Each section should explicitly state which specific activities listed in Table 7-14 these terms refer to.</p> <p><i>"Ice Management Plan"</i> and <i>"Adherence with all standard navigation procedures, Coast Guard requirements and navigation systems"</i> should be added as mitigations to Section 7.5.4.</p> <p><i>"Change in Habitat Quality"</i> should be discussed in Section 7.5.4.2.</p>

Note: Although the commitment made by the proponent to change the text in Section 7.5.4.1 to include the possible change in habitat quantity as a result of offshore spills is acceptable (see *"Hebron Project Comprehensive Study Report: Response to Review Comments, Part I"* dated November 2010), Table 7-14 will also need to be updated to reflect this information.

Comment 77: DFO 17

This response is considered adequate, provided the following comment is addressed:

The proponent indicates that the text provided will be incorporated into Section 7.5.1.4, however as offshore temporary moorings would likely affect habitat quality and use, it would be better to include the revised text in Section 7.5.1.2 or 7.5.1.3.

Comment 78: DFO 14

This response is considered adequate, provided the following comments are addressed:

The proponent needs to make a commitment in the CSR that the correct substrate classes will be used to construct the proposed fish habitat compensation. The response provided by the proponent indicates that, *“rock/cobble 100 to 210 mm along with dredged native sediments”* will be relocated from the bund wall to create compensation habitat. However, the creation of productive fish habitat requires the addition of rocky materials that are clean and free of sediment and is a combination of equal portions of boulder (250-750 mm), rock (130-225 mm) and cobble (65-130 mm). If the proponent cannot provide the full range of substrate sizes indicated, then the artificial reefs may not meet their full productivity potential.

There are also several inaccuracies related to the offshore project area that need to be corrected. The footprint of the OLS on the sea floor would in fact constitute a loss of fish habitat, therefore it is incorrect to say that, *“...increased hard surface area afforded by structures (not including the Hebron Platform itself) and associated rock cover in the Hebron offshore production field will likely offset any footprint losses...”* While the rock cover over the flowlines and the armoring around the Hebron platform may constitute fish habitat compensation, it would be contingent upon the size of rock material used and its benefit to species present within the area. Until DFO has received all information regarding the existing habitat and species within the area as well as details on the rock covering material, it cannot be concluded that this habitat creation will be sufficient to, *“offset any footprint losses”* within the offshore project area. In any case, it is incorrect to make the statement that, *“HADD compensation will not be required for the offshore Project Area”*.

Comment 90: DFO 22

This response is considered adequate.

Comment 133: DFO 27

This response is considered adequate.

Comment 138: DFO 32

This response is considered adequate.

Comment 139: DFO 33

This response is considered adequate.

A2) 4.3.3 Step 3 – Definition of Significance

This response is considered adequate.

B3) 7.3.1.5 Fish and Shellfish

This response is considered adequate.

B4) 7.3.2 Offshore

The DFO RV data for 3N was provided to Ms. Sandra Whiteway (Stantec) on March 30, 2011. This information should be incorporated into the next draft of the CSR.

B16) Page 7-42

This response is considered adequate.

B23) Page 7-62

This response is considered adequate.

B24) Table 7-12


This response is considered adequate.

F5) 12.5.1.1 Nearshore (Accident, Malfunctions and Unplanned Events)

This response is considered adequate.

Should you have any questions, please do not hesitate to contact me at (709) 772-4912 or shawn.kean@dfo-mpo.gc.ca

Regards,



Shawn Kean
Environmental Assessment & Major Projects

Attachments

cc Jason Kelly
Annette Tobin

