EMCP Comment 75: DFO 13
Section 7.5.1.1

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

If the ferry pier remains in the same footprint as the existing infrastructure, it does not need to be discussed in Section 7.5.1.1 as it will not affect habitat quantity. Table 7-11 should be updated as well. Also, if an increase in footprint is not anticipated, reference should be made in Section 7.5.1.2 to adherence to DFO's Marine Wharf Repair / Reconstruction Operational Statement. This Operational Statement can be found at: http://www.dfo-mpo.gc.ca/habitat/what-quoi/os-eo/nl/pdf/mwharf-eng.pdf.

Response: Based on current project requirements, it is not envisioned that upgrades to the ferry pier will increase the footprint. However as work continues at Bull Arm and planning for construction at the deepwater site progresses, upgrades to the ferry pier may be required, including a potential footprint increase. Detailed planning for these activities have not commenced and, therefore, additional details cannot be provided. For clarity within the CSR, potential upgrades to the ferry pier and potential impacts on fish habitat will be included in Section 7.5.1.1, and addressed in Table 7-11. The following text will be added to Section 7.5.1.1 (refer to the attached page 7-55 from the August 2010 revision to the CSR).

Upgrades to the Back Cove ferry terminal may be required. Based on current project design it is not anticipated that these upgrades will include a change in the overall the footprint of the pier. However, as project design evolves and work begins at the deepwater site, there may be requirements to alter the footprint of the ferry pier. Upgrades to the ferry pier will be designed to avoid potential impacts to the adjacent stream. If changes are made to the footprint of the ferry pier, the quantity of fish habitat available for use may be affected by the covering and/or smothering of existing habitat. Mitigation measures outlined in DFO's Marine Wharf Repair / Reconstruction Operational Statement (http://www.dfo-mpo.gc.ca/habitat/what-quoi/os-eo/nl/pdf/mwharf-eng.pdf) will be implemented. .

In addition, potential effects on Habitat quality and use are discussed in 7.5.1.2 and 7.5.1.3, respectively. These changes can be seen in the track changes version of the CSR (August 2011) provided to the C-NLOPB on August 2, 2011. The author should refer to pages 7-55, 7-59, 7-60, 7-70 and Table 7-11. In addition, reference to the above DFO operational statement will be included in Section 7.5.1.2 (refer to attached page 7-62 from the August 2011 CSR showing the revised text).

g) This response is considered adequate provided the following comment is addressed:
The clarification provided in the response regarding what is meant by "re-establishment of moorings at the Bull Arm deepwater site" should be included in the CSR.

Response: As described in our previous response, any additional moorings will be constructed on land, and these moorings do not interact with fish habitat (quantity, quality, use, or mortality). Therefore all references to these interactions have been removed from the CSR (Section 7.5.1 and Table 7-9 and 7-11). However, for clarity within the CSR, the description of these moorings will be included to provide the reader with an understanding of what is meant by the mooring points. The following text "*mooring chains will be hooked from the mooring point to a tension barge and from the*

barge to the GBS at the deepwater site; there is no interaction of the mooring chains with fish habitat (quantity, quality, use, or mortality" will be included in the first paragraph of Section 7.5.1.1 (see attached page 7-55 from the updated August 2011 CSR).

Section 7.5.1.4
b) This response is considered adequate provided the following comment is addressed:

The text provided by EMCP in their response leads the reader to believe that DFO is concerned about appropriate sizing of fish screens because of maintenance of adequate water flow, when in fact DFO is concerned with preventing the entrainment and/or impingement of fish. Please reword this text.

Response: the text has been revised to read as "With regard to potential entrainment of fish during the dewatering of the drydock, EMCP will consult with DFO regarding the sizing of fish screens." (refer to attached page 7-73 showing revised text in August 2011 CSR).

Section 7.5.2.3
b) This response is considered adequate provided the following comment is addressed:

The proponent's response indicates that the text in Section 7.5.2.3 will be revised to include a reference to the *Statement of Canadian Practice on Mitigation of Seismic Noise in the Marine Environment*, however as previously requested, Table 7-12 should also include a reference to this document as mitigation when conducting surveys.

Response: Table 7-12 had been modified. The reader is referred to Table 7-12 in the July 2011 Track Changes CSR, which was provided to the C-NLOPB on August 2, 2011. Note the reference under Potential Expansion Opportunities had not been changed in the version provided to the CNLOPB on August 2, but has since been corrected to reference the "Statement".

Section 7.5.3.3
b) This response is considered adequate provided the following comment is addressed:

If geophysical, seismic, geohazard, geological and geotechnical surveys are not proposed for decommissioning and abandonment, they should be removed from Table 7-13. It is advised that environmental surveys may be required during decommissioning and abandonment and therefore should be included in the proposed text for Section 7.5.3.3.

Response: The previous response indicated that the above referenced surveys would not likely be required during decommissioning and abandonment, with the exception of environmental, ROV and diving surveys. However, for clarity, the Sections 7.5.3.2 and 7.5.3.3 has been modified as follows (refer to attached pages 7-91 and 7-92 from the August 2011 CSR, which show the modified text).

7.5.3.2 Change in Habitat Quality

Project decommissioning and abandonment activities may affect fish habitat quality during the possible removal of subsea structures through vessel noise (associated with the operations of vessels including supply, support, tow vessels, barges) and suspended sediments. In addition, noise maybe associated with surveys that may

be required or undertaken as apart of the decommissioning and abandonment activities. Such surveys may likely include environmental, ROV and diving surveys; however, geophysical, geohazard and/or geological surveys may be undertaken if required. The environmental effects of these activities are expected to be similar in nature to those of construction, but of less magnitude and geographic extent. Potential effects of noise and suspended sediments on fish habitat quality are discussed in Section 7.5.1.2.

7.5.3.3 Change in Habitat Use

Project decommissioning and abandonment activities could affect the behaviour of fish and invertebrates and therefore habitat use. The noise and underwater activity required during possible removal of subsea structures (*e.g.*, OLS, flowlines and wellhead, operation of vessels, diving programs, surveys (as outlined in 7.5.3.2)) and lighting will be similar in nature to those of construction, but of less magnitude and geographic extent. Potential effects of noise, underwater activity and lighting on fish habitat use are discussed in Section 7.5.1.3.

7.5.3.4 Potential Mortality

Project decommissioning and abandonment activities have the potential to cause mortality of fish and shellfish during the possible removal of subsea structures (including the Hebron Platform and OLS loading points, if they are removed), and during survey activities, as described above. Activities will be similar in nature to those of construction, but of less magnitude and geographic extent. Potential for underwater construction activity to cause mortality of fish and shellfish is discussed in Section 7.5.1.4.

EMCP Comment 28: EC 14 Regarding Offshore Wind Climate and the Offshore Extremal Wave Analysis

Please note that the comments referenced as EC 14 concern the Offshore Wind Climate and the Offshore Extremal Wave Analysis, not just the Offshore Wind Climate, as the heading for the response would suggest.

Response: Acknowledged.

On rereading part c of ECMP 28: EC 14 from Nov 2010, it is not clear if the additional information provided, about the adjustment of the MSC50 data used to develop the 100 year wave, was actually going to be included in the CSR. This information included the formula, the data source, and a reference for this method. This is an important modification and the additional information should be added to the CSR.

Response: As indicated in our June 17, 2011 Response to Review Comments, the CSR would include the information cited above. The July 2011 Track Changes version of the CSR, as provided to the C-NLOPB on August 2, includes this information. For clarity page 3-58 from the July 2011 Hebron CSR - track changes revision is appended to these review comments.

The attempt at clarification about the release of wave radar data to CNLOPB and Fisheries and Oceans is appreciated. The situation is still not clear but may resolve in time.

Response: Acknowledged.

The response concerning the applicability to different platform types, of different methods used in the various extremal wave analyses, is appreciated. It would still be advisable to include in the CSR the uncertainty range for the 100 year wave value from the chosen method. However it is presumably included in the original report and available for use.

Response: Noted.

For any further analysis that may be conducted, the proponent is advised to consider further examination of available wave data (from both radar and wave buoys) as it applies to adjusting the MSC50 wave heights prior to the extremal analysis. The equation used to adjust the MSC50 wave heights was based on wave radar data for which validation information is not widely available. It did not seem to make use of years of data from wave buoys considered the standard reference for other sources of wave information.

Response: Noted.

EMCP Comment 129: EC 46 Regarding Attraction of Seabirds to Platforms

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

A portion of EMCP's response should be reworded as follows:
"The program design would be developed in consultation with Environment Canada's Canadian Wildlife Service, and would be completed prior to platform start-up in 2017. It is anticipated that field testing would begin upon completion of platform start-up and commissioning activities offshore."

Response: The text will be revised to read as stated above. The complete response now reads as follows. For clarity, refer to attached page 9-69 from the August 2011 CSR showing the modified text

In light of current knowledge of bird strikes associated with lighting on offshore platforms, EMCP commits to the development and implementation of a research monitoring program at the Hebron field location. This program will be designed to provide information regarding potential interactions between pelagic seabirds (significant concentrations hosted on the Grand Banks) and the Hebron platform. Information from the Hebron Platform site would provide additional data to allow assessment of risk and mortality regarding potential seabird attraction to offshore structures. The program design would be developed in consultation with Environment Canada's Canadian Wildlife Service, and would be completed prior to platform start-up in 2017. It is anticipated that field testing would begin upon completion of platform start-up and commissioning activities offshore.

Selected Pages from Hebron Project Comprehensive Study Report Illustrating Revised Text per EMCP Responses

7.5 Environmental Effects Analysis and Mitigation

Potential environmental effects on marine fish and fish habitat during all phases of the Project are discussed by Project phase and summarized at the end of this chapter.

7.5.1 Construction and Installation

7.5.1.1 Change in Habitat Quantity

Nearshore

Construction of the bund wall, drydock, dredged areas and any in-water dredge spoil disposal areas may be declared a HADD of fish habitat by DFO and likely require a Section 35(2) *Fisheries Act* Authorization, requiring any loss of fish habitat to be compensated with the objective to achieve no net loss of productive capacity of fish habitat.

The GBS will be towed out and moored at the deepwater site where construction will continue. As described in Section 2.8.3, it is anticipated that existing deepwater moorings will be used; however, additional moorings may be required. The requirement for additional moorings will be determined at the FEED stage. If additional moorings are required at the deepwater site, they will be constructed on land (mooring chains will be hooked from the mooring point to a tension barge and from the barge to the GBS at the deepwater site; there is no interaction of the mooring chains with fish habitat (quantity, quality, use, or mortality). In addition, temporary underwater moorings (or anchors) may be required at the Topsides pier to position the heavy lift vessel for Topsides tow-out. Details regarding the requirement for moorings, or the type of moorings that may be required are unknown at this time, as the Project is in the early stages of Project design. The footprint of the bund wall, the area of drydock, potential topsides pier moorings, the area to be dredged and the footprint of any at-sea disposal will be quantified and detailed within the "Hebron Project HADD Quantification Report" (EMCP 2011). The development and implementation of the Strategy and subsequent Habitat Compensation Plan will prevent significant adverse residual environmental effects to habitat quantity.

Upgrades to the Back Cove ferry terminal may be required. Based on current project design it is not anticipated that these upgrades will include a change in the overall the footprint of the pier. However, as project design evolves and work begins at the deepwater site, there may be requirements to alter the footprint of the ferry pier. Upgrades to the ferry pier will be designed to avoid potential impacts to the adjacent stream. If changes are made to the footprint of the ferry pier, the quantity of fish habitat available for use may be affected by the covering and/or smothering of existing habitat. Mitigation measures outlined in DFO's Marine Wharf Repair / Reconstruction Operational Statement (http://www.dfo-mpo.gc.ca/habitat/what-quoi/os-eo/nl/pdf/mwharf-eng.pdf) will be implemented.

The bund wall footprint and the area to be drained for the drydock in Great Mosquito Cove may temporarily affect the quantity of available habitat for fish and shellfish for an estimated 24 months. During this time, the submerged surface area of the bund wall will provide new habitat for some species. Species associated with boulder habitats like

Nearshore sedimentation was measured as total deposited solids (TDS) and volatile deposited solids (VDS) during the Hibernia EEM program (Christian and Buchanan 1998). Generally, the highest values of TDS and VDS occurred in the fall, followed by a decrease in the winter and a slight increase in the spring. Those areas with the most freshwater influence (*i.e.*, Stock Cove and Goose Cove) displayed the highest absolute levels compared to the other stations. The most marked inter-annual difference occurred at Station 3, the station nearest the construction site, during the time of breaching the drydock bund wall (Figure 7-12). At this time, the TDS increased and the VDS / TDS decreased markedly. TDS amounts also increased at adjacent stations but to a lesser degree.

The following is a list of mitigation measures designed to reduce sediment loading during construction. These will be implemented, where applicable, to reduce potential effects. Additional mitigation measures will be investigated during Front-end Engineering Design (FEED) and detail design and engineering:

- Investigate the use of washed rock or in-water sediment control measures for fill material in the construction of the bund wall (different measures will be investigated, and a proven method will be implemented)
- Chemistry of rock and till material will be tested prior to placement
- Efficient installation with minimal seabed disturbance
- Investigate technologies to reduce sedimentation during dredging operations (different measures will be investigated, and a proven method will be implemented)
- Minimal movement of barge anchors to reduce resuspension of sediments
- Releasing water for hydrostatic testing only when it meets criteria set out in the *Fisheries Act* or *Canadian Environmental Protection Act* (or the Newfoundland and Labrador *Environmental Control Water and Sewer Regulations*, 2003, of discharged from a land-based settling pond), prior to discharge
- Where applicable, adherence to Canadian Council of Ministers of the Environment (CCME) *Environmental Quality Guidelines* for the protection of aquatic life when considered in conjunction with existing ambient water quality and site-specific factors
- Where applicable, adherence to mitigation measures outlined in DFO's Marine Wharf Repair / Reconstruction Operational Statement (http://www.dfo-mpo.gc.ca/habitat/what-quoi/os-eo/nl/pdf/mwharf-eng.pdf).
- Use of settlement basins and/or containment areas for concrete washwater
- Use of best practices, continuous improvement programs and best available technology

Contamination

If the dredge spoils or material used for bund wall construction have levels of metals, hydrocarbons or other compounds above background level, there is increased risk of introducing or spreading contaminated soils. Concrete washwater or uncured concrete can be very alkaline and affect the quality of fish habitat if exposed to the marine environment.

habitat would be related to noise disturbances, which has been discussed in detail under the offshore portion of Section 7.5.1.2.

7.5.1.4 Potential Mortality

Project activities may result in lethal effects to fish and shellfish, as described in this section. To mitigate these environmental effects, measures have been included within the Project design so that significant adverse residual environmental effects likely will not occur. These measures include standard blasting control measures, and the application of standard seismic mitigation measures. These are described in more detail in this section.

Nearshore

Mortality of fish and shellfish during nearshore construction could result from dewatering the dry-dock area, dredging, spoils disposal, GBS ballasting and deballasting, bund wall construction and blasting.

Dredging and dredge spoils disposal increase the levels of suspended sediment. In conditions of extreme sediment load, mortality of finfish and shellfish results from extreme oxygen deficient water or respiratory obstruction. Levels of 100,000 mg/L kaolin resulted in an average mussel mortality of 10 percent after 5 and 11 days (Peddicord 1980). However, the highest suspended sediment levels reported during concurrent activities of till placement, dredging, drilling and underwater blasting for the Hibernia project at the mouth of Great Mosquito Cove were less than 40 mg/L (LeDrew, Fudge & Associates 1991). Dredging may cause mortality of some sessile invertebrates, like mussels and scallops, by crushing if a clam dredge is used. Sessile epifaunal species may be smothered during dredge spoils disposal. GBS ballasting and deballasting could potentially cause mortalilty of some fish species (including larval and eggs) if they are sucked into the ballast system during ballasting and deballasting procedures.

The blasting program, if required, in the nearshore will be designed to minimize the risk of mortality to fish. Nearshore and in-water blasting will adhere to DFO's *Guidelines for Use of Explosives in Canadian Fisheries Waters* (Wright and Hopky 1998), which is designed to mitigate fish mortality. In-water sound exposure levels in excess of 214 dB re 1 uPa (rms) are not expected from this blasting scenario and therefore, fish mortality is not expected (Turnpenny and Nedwell 1994). Nevertheless, mortality of sessile invertebrates in the immediate area of blasting is likely due to compression waves and flying debris.

During the dewatering of the drydock, a fish recovery and relocation program (to will be included as part of the Environment Protection Plan will be initiated. The goal of the program is to remove fish that would be stranded as a result of the drydock dewatering and relocate them to the nearby marine environment. It is acknowledged that while every reasonable effort will be made to recover and relocate the stranded fish, a certain degree of fish mortality may occur. With regard to potential entrainment of fish during the dewatering of the drydock, EMCP will consult with DFO regarding the sizing of fish screens. Note: during the construction of the Hibernia GBS, fish were not present within the drydock when it was dewatered.

than during Project construction (see Section 7.5.1.1). The possible removal of the Hebron Platform, rock and/or concrete mattress cover over the OLS and or flowlines, will remove the reef and refuge effect that these structures had created.

7.5.3.2 Change in Habitat Quality

Project decommissioning and abandonment activities may affect fish habitat quality during the possible removal of subsea structures through vessel noise (associated with the operations of vessels including supply, support, tow vessels, barges) and suspended sediments. In addition, noise maybe associated with surveys that may be required or undertaken as apart of the decommissioning and abandonment activities. Such surveys may likely include environmental, ROV and diving surveys; however geophysical, geohazard and/or geological surveys may be undertaken if required. The environmental effects of these activities are expected to be similar in nature to those of construction, but of less magnitude and geographic extent. Potential effects of noise and suspended sediments on fish habitat quality are discussed in Section 7.5.1.2.

7.5.3.3 Change in Habitat Use

Project decommissioning and abandonment activities could affect the behaviour of fish and invertebrates and therefore habitat use. The noise and underwater activity required during possible removal of subsea structures (*e.g.*, OLS, flowlines and wellhead, operation of vessels, diving programs, surveys (as outlined in 7.5.3.2)) and lighting will be similar in nature to those of construction, but of less magnitude and geographic extent. Potential effects of noise, underwater activity and lighting on fish habitat use are discussed in Section 7.5.1.3.

7.5.3.4 Potential Mortality

Project decommissioning and abandonment activities have the potential to cause mortality of fish and shellfish during the possible removal of subsea structures (including the Hebron Platform and OLS loading points, if they are removed), and during survey activities, as described above. Activities will be similar in nature to those of construction, but of less magnitude and geographic extent. Potential for underwater construction activity to cause mortality of fish and shellfish is discussed in Section 7.5.1.4.

A minor negative environmental effect could result from the removal of a Safety Zone around the Hebron Platform, OLS and flowlines. The refuge effect created by the Safety Zone for some species will be removed upon Project decommissioning and abandonment.

The environmental effect of the Project during the decommissioning and abandonment Phase and the mitigation to be implemented are summarized in Table 7-13. Where there is more than one potential environmental effect, the evaluation criteria rating is assigned to the environmental effect with the greatest potential for harm.

Table 7-13 Environmental Effects Assessment: Decommissioning and Abandonment

Project Activity	Potential Environmental Effect	Mitigation	Evaluation Criteria for Assessing Residual Adverse Environmental Effects[A]				
			Magnitude	Geographic Extent	Duration/ Frequency	Reversibility	Ecological / Socio-economic Context
Presence of Safety Zone	• Potential Mortality		1	2	3/6	R	2
Removal of the Hebron Platform and OLS Loading Points	• Change in Habitat Quantity • Change in Habitat Quality • Change in Habitat Use • Potential Mortality	• Use of best practices, continous improvement programs	1	2	2/1	R	2
Lighting	• Change in Habitat Use		1	1	3/5	R	2
Plugging and Abandoning Wells	• Change in Habitat Quality • Change in Habitat Use	• Use of best practices, continous improvement programs	1	1	3/2	R	2
Abandoning the OLS Pipeline	• Change in Habitat Quantity • Change in Habitat Quality • Change in Habitat Use	• Use of best practices, continous improvement programs	1	2	3/1	R	2
Operation of Vessels (supply, support, standby and tow vessels / barges / ROVs)	• Change in Habitat Use		1	3	3/6	R	2
Surveys (e.g., Geophysical, Geological, Geotechnical, Environmental, ROV, Diving)	• Change in Habitat Quality • Change in Habitat Use • Potential Mortality		1	2	3/2	R	2

KEY

Magnitude:

1 = Low: <10 percent of the population or habitat in the Study Area will be affected

2 = Medium: 11 to 25 percent of the population or habitat in the Study Area will be affected

3 = High: >25 percent of the population or habitat in the Study Area will be affected

Geographic Extent:

1 = <1 km^2
2 = 1-10 km^2
3 = 11-100 km^2
4 = 101-1,000 km^2
5 = 1,001-10,000 km^2
6 = >10,000 km^2

Duration:
1 = < 1 month
2 = 1-12 months.
3 = 13-36 months
4 = 37-72 months
5 = >72 months

Frequency:

1 = <11 events/year
2 = 11-50 events/year
3 = 51-100 events/year
4 = 101-200 events/year
5 = >200 events/year
6 = continuous

Reversibility:
R = Reversible
I = Irreversible

Ecological / Socio-economic Context:
1 = Area is relatively pristine or not adversely affected by human activity
2 = Evidence of adverse environmental effects

[A] Where there is more than one potential environmental effect, the evaluation criteria rating is assigned to the environmental effect with the greatest potential for harm

Decommissioning and abandonment activities are not likely to result in any significant adverse environmental effects on fish and fish habitat. Environmental effects are generally low in magnitude, limited in geographic extent and reversible.

the 16 wind directions occur from approximately 4 to 12 percent of the time. Monthly and annual wave roses are provided in EMCP (2010).

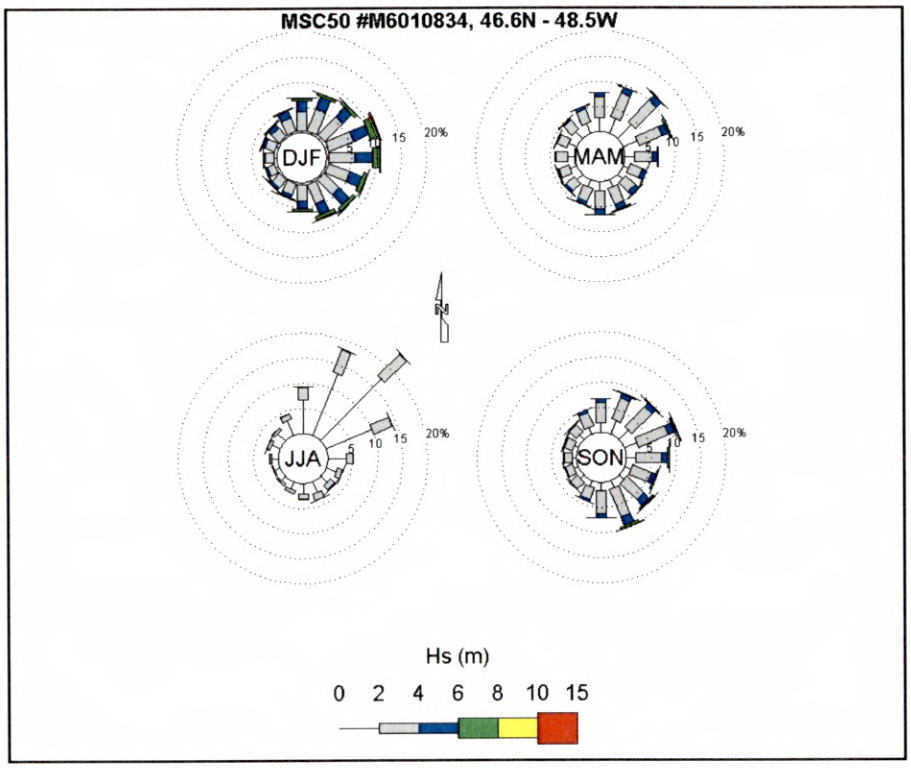


Figure 3-26 Seasonal Frequency of Significant Wave Height by Direction for the MSC50 Grid Point M10834

ExxonMobil Upstream Research Company has prepared a Metocean Criteria for the Hebron Project including operational[6] and extreme wave conditions based on the MSC50 hindcast at the same Grid Point M10834 (ExxonMobil Upstream Research Company 2009). In that work, the peaks-over-threshold approach was applied to fit storm peak wave values to a Weibull probability distribution from which long return value, or extreme, estimates could be made. The Hs values were first calibrated to Hibernia measurements. The hindcast wave data have been previously calibrated based on measurements at Hibernia from 1999 through 2005 (Berek and Wang 2009). The following calibration is used:

$$Hs_{,calibrated} = 1.0507 * Hs_{,hindcast} - 0.4793$$

The calibration leads to a reduced operational criteria and increased extreme criteria.

6 Annual and monthly tables of wave height *vs.* wave direction, wave height *vs.* wave period, exceedance of wave height (monthly only), and wave roses

S = Significant Adverse Environmental Effect	Rating:	1 = Low Probability of Occurrence
NS = Not Significant Adverse Environmental Effect	1 = Low level of Confidence	2 = Medium Probability of Occurrence
	2 = Medium Level of Confidence	3 = High Probability of Occurrence
	3 = High level of Confidence	

[A] As determined in consideration of established residual environmental effects rating criteria.
[B] Includes all Bull Arm activities, engineering, construction, removal of the bund wall, tow-out and installation of the Hebron Platform at the offshore site.
[C] Includes decommissioning and abandonment of the GBS and offshore site.
[D] Effect is not predicted to be significant, therefore the probability of occurrence rating is not required under CEAA

9.5.7 Follow-up and Monitoring

The CEAA definition of "follow-up program" is "*a program for (a) verifying the accuracy of the environmental assessment of a project, and (b) determining the effectiveness of any measures taken to mitigate the adverse environmental effects of the project*". Follow-up programs serve as the primary means to determine and quantify change from routine operations on the receiving environment. Compliance monitoring on its own, does not satisfy the requirements for a follow-up program. Compliance monitoring is conducted to ensure that a project and its activities are meeting the relevant environmental standards, guidelines and regulations. Compliance monitoring will be conducted for the Project in accordance with regulatory requirements.

Environmental effects monitoring (EEM) programs, for the nearshore and offshore components of the Project, are at the very early stages of development. Chapter 15 of the CSR outlines a proposed process to develop the EEM program. Based on the environmental effects assessment for marine birds, a marine bird EEM component is not contemplated at this stage. The EEM will be developed in consultation with stakeholders, including the public, regulatory agencies and scientific community. The final EEM design may include marine bird monitoring; however, that will be determined as the EEM design process progresses.

In light of current knowledge of bird strikes associated with lighting on offshore platforms, EMCP commits to the development and implementation of a research monitoring program at the Hebron field location. This program will be designed to provide information regarding potential interactions between pelagic seabirds (significant concentrations hosted on the Grand Banks) and the Hebron platform. Information from the Hebron Platform site would provide additional data to allow assessment of risk and mortality regarding potential seabird attraction to offshore structures. The program design would be developed in consultation with Environment Canada Canadian Wildlife Service and would be completed prior to platform start-up in 2017. It is anticipated that field testing would begin upon completion of platform start-up and commissioning activities offshore.

In the event of a spill, and depending on the nature and size of the spill, marine bird monitoring will be implemented. The details regarding monitoring requirements and protocols will be outlined in the oil spill response plan and will be determined in consultation with the C-NLOPB and Environment Canada.