## HMDC Response to Comments on 2D/3D/4D Seismic Projects to Remaining Life of Field. Comments Provided to HMDC by C-NLOPB on October 6, 2014.

Source	Comment	HMDC Response
Environment	Comment No. 1:	Response No. 1:
Canada (EC)	The proponent should be reminded that results from the	Results from the onboard seabird
	onboard seabird observation program should be sent to	observation program will be sent to
	EC-CWS on an annual basis.	EC-CWS on an annual basis.
Fisheries and	Comment No. 2:	Response No. 2:
Oceans	Section 2.2.9 Seismic Energy Source Parameters, page 5 -	HMDC no longer requires an OBS
	With respect to the proposed OBS survey "The air source	scenario as part of the Project
	operates on compressed air at pressures 1,800 to 2,500 psi,	Description and EA. Please remove
	and produce approximate peak-to-peak pressures 100 to	OBS from the EA and from further
	180 bar-m." The output range and source operating pressure	consideration at this time.
	for OBS should be reflected in Table 1 (page 3) since OBS is	
	included in the Table under 'Type of Survey'.	
C-NLOPB	Comment No. 3:	Response No. 3:
C-NEOLD	Section 2.0 Project Description, 2nd para, line 4, pg 2 – The	Please change streamer length to
	streamer length may be upgraded to "10,000 m" but Section	10,050 m which is more accurate given
	2.2.10 states up to "10, 050 m".	that sections are commonly 75 m or
	2.2.10 states up to 10, 050 m .	150 m in length.
	Comment No. 4:	Response No. 4:
	Section 2.2 Project Overview, 1st para, line 3, pg 3 –	HMDC no longer requires an OBS
	Additional detail is required for the "Ocean Bottom Seismic" activity. The information should include a description of the	scenario as part of the Project
		Description and EA. Please remove
	sensors (including size), the number, length of time placed	OBS from the EA and from further
	on the seabed. If they are independent recording nodes, how	consideration at this time.
	are they placed on the seabed? When they are retrieved, is	
	there anything left on the seabed?	
	Comment No. 5:	Response No. 5:
	Section 4.7 Special Areas, last para, last sentence, pg 12 –	HMDC no longer requires an OBC
	"Given the naturecorals and sponges". But if OBC is used,	(i.e., OBS) scenario as part of the
	what would be the interaction with corals and sponges?	Project Description and EA. Please
		remove OBS from the EA and from
		further consideration at this time.
	Comment No. 6:	Response No. 6:
	Section 5.7 Cumulative Effects, pg 14 – Would there be a	Please change "undershoot vessel" to
	cumulative effect within the project if an undershoot vessel	"secondary source vessel". This vessel
	is used?	will not discharge sound sources
		concurrent with the primary vessel
		and thus there will be no cumulative
		effect from sound. There may be a
		slight, non-significant cumulative
		effect from the presence of an
		additional vessel which likely would be
		and the second s
		no greater than other offshore vessels
		no greater than other offshore vessels
	Comment No. 7:	no greater than other offshore vessels commonly encountered on the Grand
		no greater than other offshore vessels commonly encountered on the Grand Banks.
	Comment No. 7: Section 5.9 Residual Effects of the Project, Table 4, pg 15 — The Table does not include "undershoot vessel".	no greater than other offshore vessels commonly encountered on the Grand Banks.  Response No. 7:

Table 1. Significance of Potential Residual Environmental Effects of HMDC's Proposed Seismic Program on VECs in the Study Area.

Fish and Fish Habita		Ecosystem Component: ds, Marine Mammals and Se	a Turtles, Species at Ris	sk
	Significance Rating	Level of Confidence	Likelihood <sup>a</sup>	
Project Activity	Significance of Predicted Residual Environmental Effects		Probability of Occurrence	Scientific Certainty
Sound Emissions and Receivers				
Air sources	NS	2-3	-	-
Seismic Vessel	NS	3	-	-
Picket vessel	NS	3		
Supply Vessel	NS	3	-	-
Secondary Source Vessel	NS	3		-
Helicopter	NS	3	-	-
Echosounder	NS	2-3	-	-
Side Scan Sonar	NS	2-3	-	
Boomer	NS	2-3	-	-
Vessel Lights	NS	3	-	-
Vessel Presence				
Seismic Vessel	NS	3	-	-
Supply Vessel	NS	3	-	-
Picket Vessel	NS	3	-	-
Secondary Source Vessel	NS	3	1 1 41 12	
Sanitary/Domestic Wastes	NS	3	P 4	-
Atmospheric Emissions	NS	3	- 1	-
Helicopter Presence	NS	3	-	-
Accidental Releases	NS	2-3	-	-

Key:

Residual environmental Effect Rating:

S = Significant Negative Environmental Effect

NS = Not-significant Negative Environmental

Significance is defined as a medium or high magnitude (2 or 3 rating) and duration greater

than 1 year (3 or greater rating) and geographic

Effect

P = Positive Environmental Effect

Probability of Occurrence: based on professional judgment:

1 = Low Probability of Occurrence

2 = Medium Probability of Occurrence

3 = High Probability of Occurrence

Scientific Certainty: based on scientific information and statistical

analysis or professional judgment:

1 = Low Level of Confidence

2 = Medium Level of Confidence

3 = High Level of Confidence

extent >100 km² (4 or greater rating). Level of Confidence: based on professional judgment:

- 1 = Low Level of Confidence
- 2 = Medium Level of Confidence
- 3 = High Level of Confidence
- <sup>a</sup> Considered only in the case where 'significant negative effect' is predicted.