ecojustice
formerly Sierra Legal

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

Ms. Young:

Please find below a series of short comments on behalf of our clients in the St. Lawrence Coalition: Attention FragÎles, David Suzuki Foundation, and SNAP-Québec. These comments articulate our clients' issues and concerns with aspects of Corridor's September 11, 2013 letter re. Response to Comments Received (Ref: 10-L-0056-13, and make specific recommendations to the CNLOPB prior to any determination in relation to Corridor's environmental assessment.

Respectfully,

[redacted]
Director, Ecojustice Environmental Law Clinic
[redacted]

On behalf of:

[redacted] Attention FragÎles
[redacted] David Suzuki Foundation
[redacted] SNAP-Québec

We appreciate Corridor's response and acknowledge its efforts to address the issues and concerns raised in our May 24, 2013 letter. At this point in time, it is our submission that:

1) Corridor ought to be required by the CNLOPB to amend and re-submit a revised and final environmental assessment document, which integrates the responses to specific comments made by various government departments, First Nations and other stakeholders. It is not acceptable that civil society be required to examine several documents (including spreadsheets) prepared by Corridor in order to ascertain the proponent's final position on environmental impacts and mitigation measures.

2) We request that Corridor provide a complete explanation, with supporting documents, for their reliance upon the (probabilistic) calculated blowout frequencies (see s. 8.4.5). We do not have confidence in the bases for conclusions that the likelihood of an extremely large oil spill (>150,000 barrels) is equivalent to 1 in 25,189 for each well drilled, a very large oil spill (>10,000 barrels) is equivalent to 1 in 12,610 for each well drilled, and a large oil spill (>1000 barrels) is equivalent to 1 in 10,091 for each well drilled. Obviously, the probability of a blowout increases significantly with each additional exploratory well drilled, and must be clearly incorporated into risk calculations. We request that the CNLOPB subject these calculated blowout frequencies to independent, non-governmental and objective scrutiny, as it appears more reasonable to assess spill risks within a probabilistic range. In addition, these probabilities are inconsistent with those presented by Mr. David Pryce (see below). Finally, it is critical that uncertainties inherent in such probabilistic assertions be articulated plainly with a view to enabling public comprehension.

   AMEC states that "an accidental event or malfunction is an unlikely, though unfortunately possible, occurrence", but then continues to defend the industry by saying that "most offshore wells are drilled without incident, and the likelihood of a significant and environmentally damaging spill occurring is extremely low."[1] It is obviously true that not every well results in a serious "loss of control" incident. Statistics about the unlikelihood of an accident may seem reassuring to some, at least in the abstract: only four blowouts out of 647 Canadian wells drilled by 2010 (one blowout every 16 years),[2]

[1] Draft SEA Update, p. 8. online: http://www.cnlopb.nl.ca/pdfs/wnlsea/wnlseasummen.pdf
[2] Standing Committee on Natural Resources, testimony of Mr. David Pryce (May 13, 2010). Online: http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=4531465&Language=E&Mode=1

one pipeline spill over 1,000 litres in Canada between 2003 and 2012,[3] and 3.3 tanker spills over 7 tonnes per year worldwide from 2000 to 2009;[4]

However, probabilistic statements such as these are cold comfort to residents when such an industrial accident actually occurs in their area. Time and time again, Canadians are witnessing spill incidents occur, causing tremendous damage to the surrounding communities, economies and environment.

3) We reject Corridor's "low risk" characterization in relation to potential spill impacts on commercial fisheries, based on the assertion of limited fishing activity within 10-12km of the proposed drill site. Furthermore, this characterization is, as we understand it, based on Corridor's spill simulation that has been heavily criticized by DFO and EC. We further submit that Corridor has failed to account for the prospect of future stigma risks to regional fisheries interests, should a spill occur. Thus, the negative impacts on the fisheries sector related to a spill would occur even if the oil did not physically reach areas of the Gulf that are subject to fisheries operations.

4) Pursuant to the challenging questions posed by DFO, we consider incomplete and unsatisfactory Corridor's discussion of issues related to: ice cover and associated climate change impacts, wave action, visibility, storm tracks in the Gulf, wind environment and associated details re. hazardous local effects. We submit that it would be unreasonable for the CNLOPB to make any determination in relation to the Old Harry EA without insisting upon Corridor submitting a full spill response gap study that integrates all of the above factors. Only through a comprehensive and integrated assessment of the environmental conditions that would prevent complete spill response methods from being deployed (in situ burning, dispersants, containment/booms) can the CNLOPB reach a reasonable conclusion, in the context of this EA process, about the potential to mitigate the potentially significant environmental impacts of a spill. We submit that it is not reasonable for the CNLOPB to wait, as Corridor suggests it should, for the operations authorization process, to consider a response gap study as part of a broader contingency plan.

The risk of a serious incident arising during a "response gap" period is why the SEA must provide a realistic idea of the amount of time when no response will be possible, and the effect that this will have on the impact of a spill or other incident. Work carried out by WWF-Canada (also represented by counsel from Ecojustice), in response to (and directly challenging) the NEB-commissioned SL Ross response gap study conducted for the

[3] Transportation Safety Board, "Statistical Summary, Pipeline Occurrences 2012" (2012) online: TSB <http://www.bst-tsb.gc.ca/eng/stats/pipeline/2012/ss12.asp>.
[4] International Tanker Owners Pollution Federation Limited, "Statistics" (2012) online: ITOPF <http://www.itopf.com/information-services/data-and-statistics/statistics>.

NEB's Arctic Offshore Drilling Review process, confirms that for the near offshore Beaufort Sea, taking into account periods of ice cover as well as other weather conditions, there is no spill response possible 66% of the time even in June (see Figure 1 below). Similar calculations for the weather conditions prevailing at the proposed Old Harry drill site would give a more realistic idea of the amount of time when response measures are likely to be ineffective (ie. when spill impact mitigation will not be possible).

Figure 1: WWF and SL Ross Calculation of Response Gaps in the Beaufort Sea and Davis Strait[5]

Percentage of Time When No Response Is Possible[14]									
		Jan-May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Beaufort Sea	Near Offshore	≤100	66	54	56	62	81	≤100	≤100
	Far Offshore	≤100	82	65	66	66	84	≤100	≤100
Davis Strait	Central	≤100	≤100	83	44	44	59	84	≤100
	West Central	≤100	≤100	≤100	45	48	59	84	≤100

Percentage of Open Water Periods When No Response Is Possible[15]									
		Jan-May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Beaufort Sea	Near Offshore		20	23	40	56	65		
	Far Offshore		20	22	41	56	65		
Davis Strait	Central			27	37	44	59	83	
	West Central				35	44	58	84	

Note: The dark shaded cells represent months outside the potential drilling season, when no countermeasure is possible. These cells are left blank in the lower table because there are no open water periods in those months.

Neither Corridor's EA nor the CNLOPB's draft SEA for Western NFLD contains any substantial study of the impact of the physical environment on the response gaps that exist as a result of weather conditions, regardless of the response capacity that may be available in terms of technology, infrastructure and personnel. There is no way for the CNLOPB to determine what spill impacts are mitigable, without having analyzed a detailed spill response gap study for the project location.

To reiterate, underlying our views expressed above is the trite comment that emergency response techniques often cannot be deployed as expected. If adverse conditions prevail in the Gulf at the time when an oil spill response is needed, the available measures would

[5] WWF Canada and Ecojustice (September 7, 2011) submission to Arctic Offshore Drilling Review, NEB File: OF-EP-Gen-AODR 01 Letter of Comment, S.L. Ross Spill Response Gap Study for the Canadian Beaufort Sea and the Canadian Davis Straight, p. 7.

only be effective a certain percentage of the time. Sometimes conditions are unfavourable enough such that no response is possible – that is to say, there is a response gap. Any review of Corridor's EA submissions is inadequate unless it directly addresses this response gap, because the prospective mitigation of potential environmental harms is *defined by* the response gap. Without discussion of this response gap, the EA and any associated studies of the industry's response capacity will be incomplete. Thus, we recommend that Corridor's EA submissions be updated to include a comprehensive response gap study, which should be made available for further public comment. No decision regarding the reasonableness of future operations authorizations should be made until response gaps are publicly accounted for and integrated into the EA process.

5) We note with disappointment the plagiarism problems identified by federal government departments in relation to ice information and the extent/thickness of seasonal pack ice. This reflects poorly upon the entire EA submission and goes to the credibility of the entire package.

6) We submit that Corridor's "downplaying" (according to DFO) of the impact of horizontal translation (movement) of an oil slick created by deepwater currents, and that Corridor's failure to adequately address the behaviour of a spill near the bottom of the Gulf and over the entire water column, is unacceptable and must weigh heavily in the CNLOPB's assessment of the potential environmental harms that can be mitigated.

7) We submit that DFO's comments regarding Corridor's "unrealistic" durations of oil spill trajectories, and regarding the unrealistic scenarios vis-a-vis tide currents and wind, remain to be adequately addressed by the proponent. Likewise, there remain outstanding questions about the validity of the subsea blowout model (algorithm) employed by Corridor to anticipate the fate of oil releases at depths of 470m (Corridor's consultant, SL Ross, used a "shallow water" or 50m model based on the Ixtoc blowout, which is not be analogous to the situation presented at Old Harry.

8) We submit that the potential effects of dispersant use (as a spill response strategy upon which Corridor will rely) must be fully explored in the EA documents, and this has not been done by Corridor. It would be unreasonable, in the context of evaluating the potential environmental harms caused by the formal project proposal (drilling of an exploratory well), the inextricably associated response method that would be deployed in the event of a spill.

   Studies have shown that dispersants can allow toxins to accumulate in the food web; oil broken up by dispersant damages the insulating properties of seabirds' feathers more than untreated oil, making the birds more susceptible to hypothermia and death; and that dispersed oil is toxic to fish eggs, larvae, and adults as well as to corals, and can harm sea

turtles' ability to breathe and digest food.[6] Some studies have found that chemical dispersants exhibit synergistic toxicity when combined with oil.[7] A recent study found that the chemical dispersant COREXIT (deployed in the Deepwater Horizon response) increases the toxicity of oil by a factor of 52.[8] The temperature regime, biodiversity, and oceanographic processes at work in the Gulf of St. Lawrence are likely somewhat different than those in the Gulf of Mexico, but there is a pressing need to acquire the best available information on the impact that chemical dispersants might have on the Gulf of St. Lawrence.

The approach to the use of dispersants should be precautionary, including analysis of potential harm to endangered species and the impacts of toxicity to creatures that form the basis of the food chains in their area. Without such information, it is not possible to make a reasonable determination regarding the potentially significant environmental harms that dispersants would cause.

9) Corridor asserts repeatedly that it has, with the assistance of its consultants, modelled "reasonable worst case scenarios" in its EA documents; however, we submit in agreement with DFO that Corridor's approach is insufficiently conservative. Broadly speaking, we now understand that allowing proponents to define their own models of worst-case scenario oil spills invites substandard and misleading work. The Board should not put itself in a position where each individual project application understates the risks and impacts of a spill, requiring months of follow-up by already under resourced government departments and civil society organizations. Project proponents have an incentive to understate the risks from worst-case spills.

In the case of the Old Harry environmental assessment, Corridor Resources and its consultant have refused to meaningfully amend spill modelling to include the bathymetry and sub-surface ocean currents in the area, or to model any oil heavier than a light Cohasset crude oil spilled in "batches" every 6 hours rather than a continuous and accumulating spill. This refusal comes despite repeated critiques by the Department of Fisheries and Oceans and Environment Canada.[9,10] Thus, after two iterations of the EA,

---

[6] Center for Biological Diversity, "Dispersants" (not dated) www.biologicaldiversity.org/programs/public_lands/energy/dirty_energy_development/oil_and_gas/gulf_oil_spill/dispersants.html.

[7] S.E. Hook and H.L. Osborn, "Comparison of toxicity and transcriptomic profiles in a diatom exposed to oil, dispersants, dispersed oil" (2012) *Aquatic Toxicology*, 124–125.

[8] R Rico-Martinez, TW Snell and TL Shearer, "Synergistic toxicity of Macondo crude oil and dispersant Corexit 9500A® to the *Brachionus plicatilis* species complex (*Rotifera*)" (2013) 173 *Environmental Pollution* 5.

[9] See the most recent response by DFO: Department of Fisheries and Oceans, "Response to Revised EA Report" (August 6 2013) online: C-NLOPB: < http://www.cnlopb.nl.ca/pdfs/corridorresinc/dforesponse.pdf>.

[10] C-NLOPB, "Consolidated Comments on the Revised Environmental Assessment of the Old Harry Exploration Drilling Program" (August 19 2013), online: C-NLOPB: <http://www.cnlopb.nl.ca/pdfs/corridorresinc/revconcomments.pdf>.

there is still no accurate assessment of a worst-case scenario spill modeled in the Old Harry EA study area. On this basis, the CNLOPB should reach a determination that the potential significant environmental effects cannot be mitigated. And more generally, the CNLOPB should set clearer expectations for the information that proponents must provide and acceptable, peer-reviewed methods of modelling worst-case scenarios.

Corridor's Responses to Ecojustice submission

The following are brief replies to Corridor's responses (pp. 43-58) to our original submissions.

Issue #1: Corridor contends that it has used state-of-the-art wind and current data. However, these are seasonal averaged data, which tend to blurr the extremes. Just as DFO has suggested, instantaneous data (such as hourly observed winds) should have been used.

Issues # 7-8: To further substantiate our assertion that public consultations were not properly conducted, two recent processes need to be considered:

a.) The recently released Quebec Strategic Environmental Assessment (EES 2), after extensive consultations, arrives at the conclusion that "social license" is totally absent around Gulf communities.
b.) The draft Western NL SEA and the associated process, after conducting extensive consultations in all five Gulf provinces, also demonstrates that social license for offshore drilling in the Gulf is far from being obtained.

Issue # 13: We maintain our position that it is essential for the public to know the specific details, based on specific documents and studies prepared by Corridor's experts, that ostensibly form the rationale behind Corridor's selection of a very light oil surrogate. In its original EA, Corridor presented a 4-page summary of the original Mukhopadhyay (2011) report. In the November 11, 2011 "Completeness Review" of Corridor's original EA, the CNLOPB asked Corridor to provide the complete Mukhopadhyay report, given the importance of the surrogate oil issue. In Corridor's December 15, 2011 response to the CNLOPB "Completeness Review", it provided only the same 4-page summary, and not the full Mukhopadhyay report. Since then, Corridor has still not complied fully with the CNLOPB's request. In the interest of enabling an external counter-expertise, the full Mukhopadhyay report should be provided as originally requested by the CNLOPB.

Issue # 40: Corridor still does not address the fact that a 23-year old reference is provided to show no significant mortality to marine mammals, while recent oil spills have shown the contrary.

Finally, an important misrepresentation by Corridor needs to be outlined. In its May 24, 2013 letter to the CNLOPB, Environment Canada states:

"This is the third time that EC has reviewed the oil spill modelling for this project and our conclusions have not been substantially altered by anything that the Proponent has offered. We suggest to the CNLOPB that there is little to be gained by further iteration of this

exercise and recommend that the Board exercise its authority under the Canadian Environmental Assessment Act and proceed with the course of action it sees fit."[11]

This comment clearly shows that, after three attempts, EC is frustrated by Corridor's refusal to change anything substantial about its approach to spill modeling. In desperation, EC states that little is to be gained [from the Proponent] by further iterations of the exercise.

On September 11 2013, Corridor wrote to the CNLOPB:
"Corridor has provided some comments on the issues and clarifications of the work we have completed, and we agree with EC that there is little to be gained by further iterations of this exercise."[12]

From our perspective, this is a misrepresentation of EC's comments. EC does not suggest that little scientific knowledge can gained by further iterations, but rather that nothing substantial can be gained from further back-forth on this issue with the Proponent!

Conclusions

Our submissions discuss a number of issues that must be adequately addressed in order for the CNLOBP to reasonably determine that Corridor's exploratory drilling proposal will result in significant environmental impacts that can be mitigated. Furthermore, our submissions speak directly to the conditions pursuant to which Old Harry may proceed with public acceptance and full knowledge of the risks. We invite the CNLOPB to carry out its statutory obligations to conduct in the knowledge that decisions about whether or not to develop oil and gas in the Gulf of Saint Lawrence are *social* decisions. It is our blunt assertion that Corridor has come nowhere close to achieving a "social license to operate", and that the CNLOPB cannot bestow any such legitimacy without having comprehensively addressed our submissions above.

Respectfully submitted this 15th day of October, 2013.

[redacted]
Faculty of Common Law, University of Ottawa

On behalf of [redacted] (Attention FragÎles), [redacted] (David Suzuki Foundation) and [redacted] (SNAP-Quebec/CPAWS)

[11] EC response to revised EA report, online: < http://www.cnlopb.nl.ca/pdfs/corridorresinc/ecrevres.pdf >
[12] Corridor Submission of Response to Comments on the Revised EA Report (English) , online: < http://www.cnlopb.nl.ca/pdfs/corridorresinc/encover.pdf >