## Open Letter on the Joint Review Panel report regarding the Northern Gateway Project

May 26, 2014

The Right Hon. Stephen Harper Prime Minister of Canada Langevin Building 80 Wellington Street Ottawa ON K1A 0A6

# Dear Prime Minister Harper:

Based on the evidence presented below, we, the undersigned scholars, have concluded that the Joint Review Panel's (JRP) assessment of the Northern Gateway Project (the Project) represents a flawed analysis of the risks and benefits to British Columbia's environment and society. Consequently, the JRP report should not serve as the basis for concluding that the Northern Gateway Project is in the best interests of Canadians. We urge you in the strongest possible terms to reject this report.

The Canadian electorate expected the JRP ruling to present a balanced and appropriate consideration of the risks and benefits of the Project, drawing upon the best available evidence, and expressing a cogent rationale for the final ruling.

By our analysis, the Canadian electorate received a ruling that is not balanced or defensible due to five major flaws. The Panel's review:

- 1. Failed to adequately articulate the rationale for its findings,
- 2. Considered only a narrow set of risks but a broad array of benefits, thereby omitting adequate consideration of key issues,
- 3. Relied on information from the proponent, without external evaluation,
- 4. Contradicted scientific evidence contained in official government documents, and
- 5. Treated uncertain risks as unimportant risks, and assumed these would be negated by the proponent's yet-to-be-developed mitigation measures.

Below, we expand on these five fundamental flaws that invalidate the report as an appropriate basis for your Cabinet to approve the Project.

### 1. Failure to Articulate a Rationale

The panel failed to articulate a rationale for numerous findings<sup>i</sup>, and failed to satisfy the criteria of "justification, transparency and intelligibility" expected of administrative tribunals. Such a rationale is fundamental to both scientific and legal judgment. The Panel's charge was to determine whether the Project is in the public interest of British Columbians and Canadians, based on a critical analysis of the Project's economic, environmental and social benefits, costs *and* risks over the long term. Instead of such a balanced consideration, the panel justified its recommendation of the project by summarizing the panel's understanding of environmental burdens in five short paragraphs<sup>iii</sup> and judging that these adverse environmental outcomes were outweighed by the potential societal and economic benefits. Without a rationale for why the expected benefits justify the risks (e.g., why must an environmental

effect be certain and/or permanently widespread to outweigh economic benefits that themselves are subject to some uncertainty?), any ruling of overall public interest is unsupportable.

### 2. Consideration of Narrow Risks but Broad Benefits, Omission of Key Issues

The panel included in its deliberation a broad view of the economic benefits, but an asymmetrically narrow view of the environmental risks and costs. The need for the Project as stipulated by Enbridge includes consideration of the enhanced revenues that would accrue from higher prices for oil sands products in Asian markets. These enhanced revenues are benefits to producers *from production*. The environmental risks, however, were only considered if they are *associated with transport, not production or later burning/*consumption. All negative effects associated with the enhanced production of oil sands bitumen, or the burning of such products in Asia, were excluded, as were greenhouse gas emissions generally. This exclusion of the project's contributions to increased atmospheric emissions undermines Canada's formal international commitments and federal policies on greenhouse emissions. Other key issues omitted include the difficulty of containing freshwater spills under ice, as has already been demonstrated on the Athabasca River from oil sands developments.

### 3. Reliance on Information from the Proponent, without External Evaluation

On critical issues, the panel relied on information from the proponent without external assessment. For example, on the pivotal matter of the risks of a diluted bitumen tanker spill, the panel concluded that a major spill was unlikely. Vii Yet, a professional engineers' report concluded that the quantitative risk assessment upon which the panel relied was so flawed as to provide no meaningful results. Viii Regarding the consequences of such a spill, the panel relied on the proponent's modeling to conclude that the adverse consequences of a spill would not be widespread or permanent, view even as it acknowledged that there is much uncertainty about the behavior of diluted bitumen in the marine environment. That modeling discounted the prospect that diluted bitumen could be transported long distance by currents, when the product submerges, as it does under a wide range of conditions. Viii Thus, the panel may have underestimated the scale of potential damages. Because the proponent is in a clear conflict of interest, an independent assessment of potential oil spill damage should have been commissioned.

#### 4. Contradiction of Official Government Documents

A decision on the potential for significant adverse environmental effects on any species or habitat must be consistent with the government's own official documents. The panel's conclusions that marine mammals in general will not suffer significant adverse cumulative effects stands in direct contradiction to the government's own management and recovery plans. \*ii For example, the Recovery Plan for large whales (blue, fin, and sei whales—species-at-risk under the federal *Species at Risk Act, SARA*) lists "collisions with vessels, noise from industrial ... activities, [and] pollution" as imminent threats —all three threats are associated with the NGP proposal\*\*iii. Contamination has also been identified as a threat for other marine mammals: the management plans for both the sea otter\*\*iv and the Steller sea lion\*\*v identify a risk from marine contamination—in particular the acute effects of large oil spills, but also from the toxicity of smaller, chronic spills that are likely to increase proportionally with vessel traffic. The panel also failed to account for newly identified critical habitat of the humpback whale and failed to specify how the proponent's mitigation plan would reduce the significant risks from increased shipping, a serious threat identified in the recently published Recovery Strategy for the species.\*\*vi A plan to

manage the threats to the species and its habitat is a legal requirement given that the humpback whale is a species of Special Concern under SARA.

# 5. Inappropriate Treatment of Uncertain Risks, and Reliance on Yet-To-Be-Developed Mitigation Measures

The panel effectively treated uncertain risks as unimportant. For instance, Northern Gateway omitted specified mitigation plans for numerous environmental damages or accidents. This omission produced fundamental uncertainties about the environmental impacts of Northern Gateway's proposal (associated with the behaviour of bitumen in saltwater, adequate dispersion modeling, etc.). The panel recognized these fundamental uncertainties, but sought to remedy them by demanding the future submission of plans. However, the panel described no mechanism by which the evaluation of these plans could reverse their ruling. Since these uncertainties are primarily a product of omitted mitigation plans, such plans should have been required and evaluated before the JRP report was issued. To assume that such uncertainties would not influence the final decision of the panel, is to sanction the proponent's strategic omissions, and effectively discount these potentially significant risks of the Project, to the detriment of the interests of the Canadian public.

#### Conclusion

The JRP report could have offered guidance, both to concerned Canadians in forming their opinions on the project and to the federal government in its official decision. However, given the major flaws detailed above, the report does not provide the needed guidance. Rather, the JRP's conclusion—that Canadians would be better off with than without the Northern Gateway Project given all "environmental, social, and economic considerations" — stands unsupported.

Given such flaws, the JRP report is indefensible as a basis to judge in favour of the Project.

Sincerely,

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<sup>&</sup>lt;sup>i</sup> Consider, for example, the views of the panel on the consequences and significance of spills, Report of the Joint Review Panel for the Enbridge Northern Gateway Project, Volume 2, Section 7.2.5, beginning on page 128. On page 129 we read "The Panel finds that there is potential for some oil to sink if it interacts with sediment or suspended particulate matter, or over the long term, due to natural weathering processes." The Panel has discounted the possibility that bitumen residue could submerge in the short term in the absence of particulates. It is impossible to know how they reached this conclusion, which turns out to be wrong.

Dunsmuir v New Brunswick, 2008 SCC 9: A court conducting a review for reasonableness inquires into the qualities that make a decision reasonable, referring both to the process of articulating the reasons and to outcomes. In judicial review, reasonableness is concerned mostly with the existence of justification, transparency and intelligibility within the decision-making process. But it is also concerned with whether the decision falls within a range of possible, acceptable outcomes which are defensible in respect of the facts and law. (at para 47)

The Panel judged that some risks were significant, but with stated limitations. For example, for the Project's contribution to cumulative effects on caribou and grizzly bears, the Panel judged the effects significant ("at the low end"; Northern Gateway JRP Report, Vol 2, p.10). For the "unlikely event of a large oil spill", the Panel found that it "would not cause permanent, widespread damage" (Northern Gateway JRP Report, Vol 2, p.12). But see this letter's points 2-5 regarding the Panel's mischaracterizations of risks.

Report of the Joint Review Panel for the Enbridge Northern Gateway Project Volume 1, page 17 and Panel Session Results and Decision issued January 19, 2011, pages 12-14: https://docs.neb-one.gc.ca/ll-

eng/llisapi.dll/fetch/2000/90464/90552/384192/620327/624909/662325/A22-3\_-\_Panel\_Session\_Results\_and\_Decision\_A1X2L8.pdf?nodeid=662117&vernum=-2
For the general exclusion of climate change, see http://gatewaypanel.review-examen.gc.ca/clf-nsi/fq/rcmmndtn-eng.html#s14

V Canada agreed to reduce its greenhouse gas emissions, in order to limit global warming to less than 2°C, to 17% below 2005 levels by the year 2020. Canada's recent report to the UN, however, projected that our emissions will be 24% above our international target in 2020 and 78% percent of the growth in emissions by 2020 is projected to come from oil sands production. Canada's Emissions Trends – 2013. Environment Canada Report October 2013. P24: "Specifically, emissions from oil sands mining are projected to more than double over the 2005 to 2020 time period. Emissions from in situ production are expected to increase from 11 Mt in 2005 to 55 Mt in 2020." <a href="http://www.ec.gc.ca/ges-ghg/985F05FB-4744-4269-8C1A-D443F8A86814/1001-Canada's%20Emissions%20Trends%202013\_e.pdf">http://www.ec.gc.ca/ges-ghg/985F05FB-4744-4269-8C1A-D443F8A86814/1001-Canada's%20Emissions%20Trends%202013\_e.pdf</a>

vi This may be the most serious and likely risk. For example, already two spills have occurred on the Athabasca River under ice. In the first of these, in 1982, a fire at Suncor in January released a moderate amount of oily substances; due to the inability to contain the spill, these substances travelled all the way to Lake Athabasca, closing the fishery for 2 years. In October 2013, the tailings pond breached at Obed mine. This spill continued to spread and could not even be assessed until the ice left more than six months later.

<sup>&</sup>quot;The Panel finds that a large spill, due to a malfunction or accident, from the pipeline facilities, terminal, or tankers, is not likely. Northern Gateway JRP Report, Vol 2, p 168

viii Concerned Professional Engineers. 2014. Flawed analysis, irresponsible approval. White Paper #1. http://concernedengineers.org/wp-content/uploads/2014/03/Whitepaper-1-Flawed-analysis-irresponsible-approval.pdf

<sup>&</sup>lt;sup>ix</sup> JRP Report Vol 2, p 129: "The Panel finds that a large terrestrial, freshwater, or marine oil or condensate spill would cause significant adverse environmental effect and that the adverse effects would not be permanent or widespread."

<sup>&</sup>lt;sup>x</sup> It is not necessary to conclude that a consequence would be permanent to establish that the consequence is so long-lived as to represent a significant adverse effect. The effects of the Exxon Valdez are apparent after more than 25 years: <a href="http://response.restoration.noaa.gov/sites/default/files/Exxon\_Valdez\_25YearsAfter\_508\_0.pdf">http://response.restoration.noaa.gov/sites/default/files/Exxon\_Valdez\_25YearsAfter\_508\_0.pdf</a>

xi Crosby, S., R. Fay, C. Groark, A. Kani, J.R. Smith, and T. Sullivan (March 2013) Transporting Alberta's Oil Sands Products: Defining the issues and addressing the risks. https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnxub2Fhb2lsc2FuZHNwcm9qZWN0f Gd4Ojc5NmVIMDk3NjczNjIzNGU. Accessed May 2, 2014

Management plans are intended to prevent species listed as Special Concern from becoming endangered or threatened.

xiii Gregr, E.J., J. Calambokidis, L. Convey, J.K.B. Ford, R.I. Perry, L. Spaven, M. Zacharias. 2006. Recovery Strategy for Blue, Fin, and Sei Whales (*Balaenoptera musculus, B. physalus,* and *B. borealis*) in Pacific Canadian Waters. In Species at Risk Act Recovery Strategy Series. Vancouver: Fisheries and Oceans Canada. vii + 53 pp.

xiv Fisheries and Oceans Canada. 2014. Management Plan for the Sea Otter (*Enhydra lutris*) in Canada. Species at Risk Act Management Plan Series. Fisheries and Oceans Canada, Ottawa. iv + 50 pp.

<sup>&</sup>lt;sup>xv</sup> Fisheries and Oceans Canada. 2010. Management Plan for the Steller Sea Lion (*Eumetopias jubatus*) in Canada [Final]. Species at Risk Act Management Plan Series. Fisheries and Oceans Canada, Ottawa. vi + 69 pp.

xvi DFO, 2013, Recovery Strategy for the North Pacific Humpback Whale (*Megaptera novaeangliae*) in Canada, http://www.sararegistry.gc.ca/virtual\_sara/files/plans/rs\_rb\_pac\_nord\_hbw\_1013\_e.pdf

xvii JRP Report Volume 1, page 11.