



A SYNOPSIS OF BRITISH COLUMBIA'S ARGUMENT PRESENTED TO THE ENBRIDGE NORTHERN GATEWAY PANEL

An Independent Synopsis
prepared by
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October 2013

*A Seven page
Synopsis of the
highlights of the
Argument submitted
by the Province of
British Columbia to
the Gateway Joint
Review Panel,
May 2013*

Synopsis of the Argument of British Columbia presented to the Northern Gateway Panel

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Background to this Independent Synopsis

The Independent Synopsis serves as a quick read for decision makers. The clear and readable presentation is readily accessible to Elders, students, and members of the community at large.

Because of the high level of First Nation and public concern over all aspects of the Gateway Project, the Canadian Environmental Assessment Agency, together with the National Energy Board, established a Joint Review Panel that enabled First Nations, stakeholders, the general public, and the Province of British Columbia, to express their concerns over the pipeline and marine components of this project in formal, public hearings.

These hearings included the tabling by the Province of British Columbia of their Argument on May 31, 2013. The *Argument of the Province of British Columbia* details the Province's concerns, and overall objections to the approval of the Gateway Project. The Province did not support approval of the Gateway Project.

The hearings concluded on June 24, 2013. The JRP is now responsible for preparing an environmental assessment report which is to be submitted to the federal Cabinet by December 31, 2013.

The federal Cabinet will make the decision on whether there is a significant adverse environmental impact caused by the project and whether or not it may proceed. It may be, however, that First Nations have already made their own free, prior and informed decision on this project.

The Independent Synopsis

The concerns, and the positions, of the Province of British Columbia are of considerably high First Nation and public interest. We have, therefore, focused on the *Argument of the Province of British Columbia* that was tabled at the Panel hearings. We have broken down the specifics of the original 55 - page Argument, into a 7-page summary centered on what was said with respect to:

- ✦ Pipeline Concerns,
- ✦ Marine Response Concerns.

Those looking for in depth technical detail on all aspects marine should refer to, among others, EnviroEmerg Consulting: *A Technical Analysis of Marine Transportation Statements for the Enbridge Northern Gateway Project: Tanker Casualty Risk Reduction and Spill Response Preparedness*, prepared for Living Oceans Society submission to the Joint Review Panel.

Background to the Enbridge Northern Gateway Project

The \$5.5 billion Enbridge Northern Gateway Project involves the construction of twin pipelines running between Bruderheim, Alberta and Kitimat, British Columbia. The purpose of the project is to transport oil sands bitumen to Asian and other Pacific Rim markets.

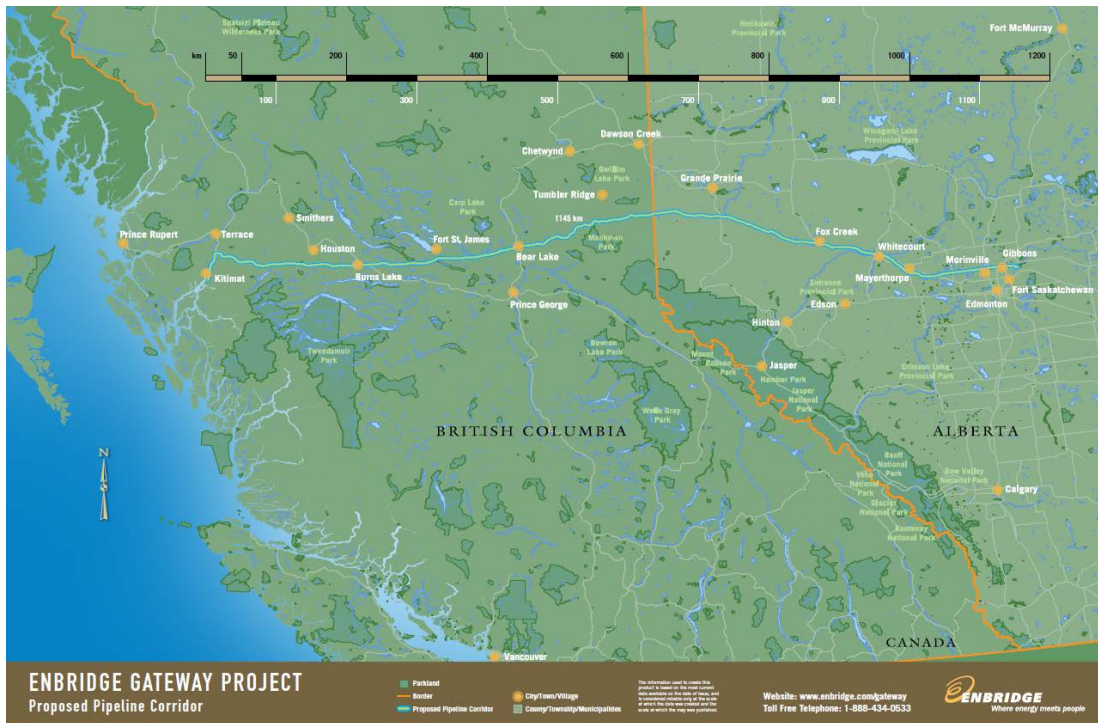


Fig. 1: Proposed Overland Pipeline Route - Enbridge Gateway Application

Two pipelines use the same corridor. The import pipeline runs from Kitimat to Bruderheim, just outside of Edmonton, to deliver condensate required to dilute the heavy bitumen and enable it to be transported back to Kitimat through the export pipeline.

A Marine Terminal, proposed for Kitimat, will be required to store and transport imported condensate and the bitumen. The terminal would accommodate the unloading and storage of condensate as well as the storage and loading of the export bitumen. It is here, after its 1,170 kilometer journey from Alberta, that the bitumen is transferred to tankers for transport to overseas refineries.

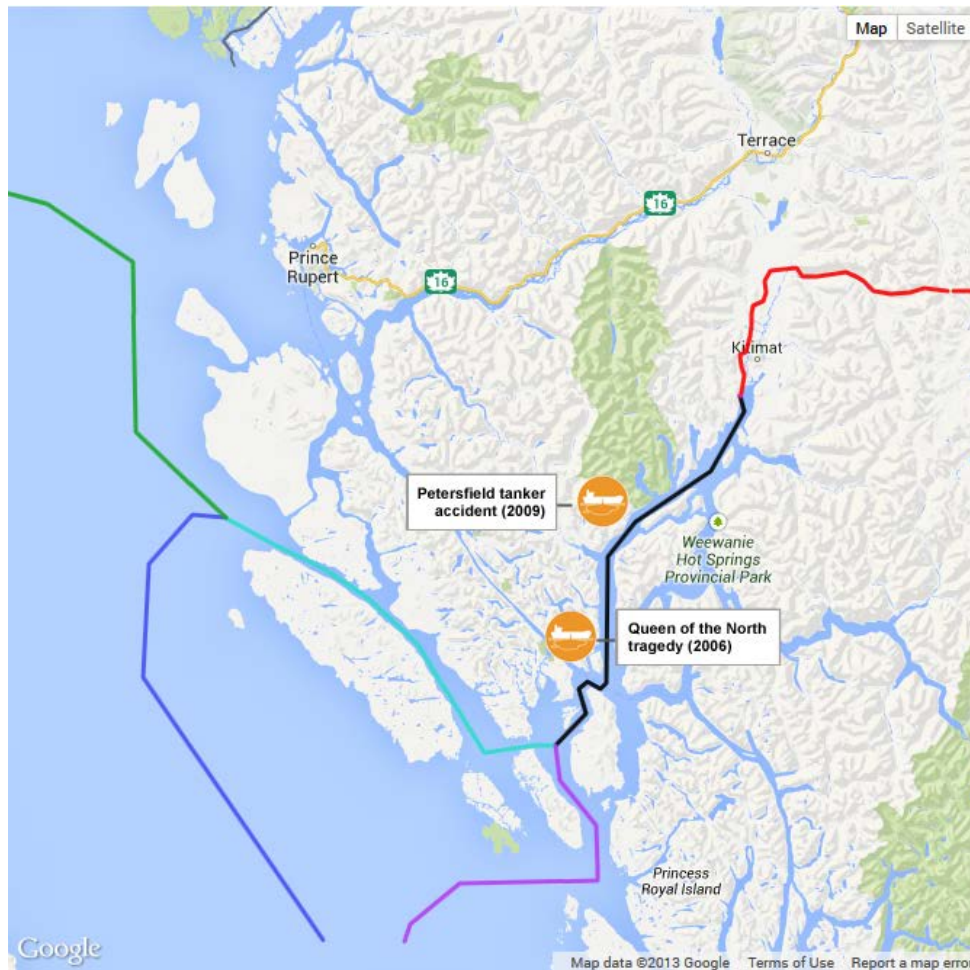


Fig.2. Tanker Approach Routes, previous accidents. Globe and Mail March 13, 2013.

At the rate of over one tanker per day, in-coming and out-going tankers would pass through the confined waterways of the Confined Channel Assessment Area and proceed then into the open waters of Hecate Strait, Dixon Entrance and Queen Charlotte Sound in British Columbia. The bitumen would be transported in the Very Large Crude Carriers tanker class.

The Marine Terminal would have two tanker berths, one for importing condensate tankers and one for exporting bitumen tankers, as well as storage for three condensate tanks and 11 bitumen tanks.

Synopsis of the Argument – Pipeline Concerns

The Province states that the impacts of spills into pristine river environments would be profound. Spill response planning is preliminary and NG cannot provide assurance that it will be able to respond effectively to all spills. The principal concerns held by the Province with respect to pipeline spills include the following factors:

- ⊕ Enbridge had 11 releases greater than 1000 barrels between 2002 and 2012,
- ⊕ Effects of a spill on fish could span several generations,
- ⊕ Effects on fish such as eulachon would not necessarily be reversible,
- ⊕ A spill into a watercourse, at a difficult to access location, presents the greatest difficulty for clean-up and remediation,
- ⊕ Steepness of terrain makes spill response very challenging,
- ⊕ Booms are ineffective at certain water velocities such as spring runoff,
- ⊕ Heavy weather, deep snow, avalanches and debris slides, spring melt, and fall freeze-up would impede snowmobiles, snow cats and helicopters, as well as spill response,
- ⊕ NG has not shown world class spill response capability.

Will the Bitumen Sink in the Rivers and Lakes?

Bitumen *can* sink, as it did in Enbridge's 2010 Michigan bitumen spill. NG, however, presented inconsistent evidence on whether diluted bitumen can sink, stating that it could not sink (*as an immutable law of physics*), or, that it could sink if the oil:

- ⊕ Was weathered after the evaporation and loss of the light oil components,
- ⊕ Attached to sediments in the river water, more than half of the bitumen could sink,
- ⊕ Submerged bitumen was still being treated a year after the Michigan spill,
- ⊕ Three years after the Michigan spill, in 2013, the U.S. EPA made a further order for dredging the bitumen from the submerged oil from the river bottom.

Environment Canada stated that NG's models did not account for small amounts of sediment that may cause sinking of diluted bitumen.

NG has relied on laboratory tests that not backed up by real world tests in actual rivers. The Province quotes EnviroEmerg Consulting on behalf of Living Oceans Society:

- ⊕ There are no definitive statements in the EIS to explain if bitumen diluted with condensate will emulsify, sink or do both if spilled. The supporting technical data analysis in the EIS is based on laboratory tests. There are no in-situ field tests, empirical studies, nor real incidents to validate these findings. This raises significant uncertainty that current spill response technologies and equipment designed for conventional oil can track and recover the diluted bitumen in temperate

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marine waters. In essence, the assumption that the diluted bitumen can be recovered on water has yet to be tested.

NG stated that planning for dealing with submerged bitumen will only be developed *following* federal approval; one NG representative stated that no specific measures are really planned or warranted. NG further stated that it had no known measures to remove oil entrained in the water (i.e. the bitumen that is in solution and has not settled to the river or ocean bottom). The Province asserts that NG is not yet prepared to deal with sunken bitumen.

Pipeline Spill Response Planning is Preliminary

NG has not yet identified locations on the BC rivers where it would capture and recover the spilled bitumen. NG states that it will only provide Oil Spill Response Plans to the National Energy Board 6 months *in advance of actual operations*:

- ⊕ The 2010 Michigan Spill occurred in a populated location with many points of access – this would not be the case, of course, with a remote river in British Columbia,
- ⊕ NG has not completed year-round location and travel times for control points for boat access on remote river crossings,
- ⊕ NG has not yet identified equipment caches or waste disposal locations.

The Province is very concerned that, in the event of a spill, some locations impacted by the spill will be inaccessible. When asked to explain how it will respond to a spill, NG generally states that this will become clear when its detailed plans are revealed, i.e. *after* project certification and approval. The Province submitted that NG could not respond effectively (if at all) to a full bore spill to the Clore River, which is a tributary to the Copper River and then into the Skeena River.

The Province has similar concerns with:

- ⊕ A spill on the Morice River, which drains to the Bulkley River and then into the Skeena River,
- ⊕ A spill on the Sutherland River, which empties into Babine Lake,
- ⊕ A spill on the Kitimat River in the upper Kitimat Valley due to steep terrain, which drains into tidewater at Douglas Channel.

Pipeline Spill Response Performance Measures

The NG Spill Response Plans are conceptual and are based on a response time of 6-12 hours, which is only for arrival on site (and not for the assemblage of equipment, which may be further away).

- ✦ In the case of the Norman Wells spill, the equipment arrived four *days* later,
- ✦ In the case of a spill into Hunter Creek, oil would reach the Kitimat Estuary within **4-10** hours.

NG stopped their spill response models after only 12 hours, assuming that by then the oil would have been contained. A spill on the Clore River would travel many hours after the NG 12 hour model and would reach the confluence with the Copper River.

By the time resources are brought to bear on a given spill into a given watercourse, the spill may have spread so far that environmental effects would be severe before any response is commenced.

Enbridge does not Learn from Pipeline Spill Mistakes

Enbridge admitted that the rule for shutting down the pipeline whenever a leak is detected (also proposed for the NG Project), was not followed on the Michigan Spill. The U.S. National Transportation Safety Bureau's (NTSB) review of past Enbridge spill management noted that Enbridge's response to past management related incidents, focused only on the immediate cause, without a systematic examination of the company's actions, policies, and procedures that may have been involved in the spill response.

- ✦ Enbridge had failed to put in place available crack detection policies which resulted in the 2010 Michigan bitumen spill (largest land spill in U.S. history),
- ✦ An inspection in 2005 left 6 crack-like defects in place, ranging from 9 to 51 inches, until the 2010 rupture.

The Michigan spill response was hampered by inadequate resources on site, and a lack of spill response organizations under contract near the spill site. NTSB asked why, when Enbridge was warned of its poor integrity management program in 1999, that it ended up in 2010 with pervasive organizational failures and deficient integrity management procedures.

Bitumen Spill Detection

NG will not commit to a precise leak threshold prior to construction of the pipeline. Under NG's current leak detection system, a 3% leak would spill over 200,000 litres over two hours.

- ⊕ A 2009 leak near Ft. McMurray went undetected for over two hours and resulted in a spill of over 900,000 litres,
- ⊕ Ng will not currently commit to cable optic monitoring until detailed planning is carried out *post project* approval.

After a 2011 inspection carried out by the National Energy Board, the NEB found 117 of the 125 pump stations were non-compliant and lacked alternative power. Still, NB is not willing to commit to the hard and fast automatic 10-minute shut down rule, which was ignored in the Michigan spill, and which may be repeated.

- ⊕ This is particularly of concern for remote sections of the pipeline under heavy snow cover.
- ⊕ Note that of the 11 releases that Enbridge had during 2002-2012, only 5 were detected with other methods (e.g. fly overs, third party notification).

There are serious concerns about the ability of NG to respond adequately to spills into watercourses. The possibility of a bitumen spill is very real, as Enbridge's track record indicates:

- ⊕ The potential for devastating effects on a watercourse are obvious,
- ⊕ Challenges include terrain, access, remoteness and weather,
- ⊕ Bitumen may sink and further impact river, lake and estuaries,
- ⊕ There is a continuous inability of Enbridge to improve its response to spills,
- ⊕ NG is apparently unwilling to adapt state-of-the-art spill detection measures.

It is insufficient for NG to say that certain mitigation measures will be demonstrated *after* they have project approval. There will be no subsequent public process in which that ability can be tested. The Province submits that NG has not shown the ability to effectively respond to a bitumen spill.

Synopsis of the Argument - Marine Response Concerns

The Province does not agree with NG when it says that it has world class spill response capability in place. A spill in the Confined Channel Assessment Area or the Open Water Area could have significant short term impacts (acute toxicity from ingestion or inhalation), as well as long term impacts from habitat loss and the uptake of contaminants. Experts from Environment Canada and DFO contend that marine impacts can persist for decades.

- ✦ Scientific evidence has shown that impacts from the Exxon Valdez spill on sea otters and killer whales have persisted for over two decades following the spill.

Oil Spill Response Concerns

NG's oil spill response planning remains at a conceptual level with many details still undefined:

- ✦ NG has not prepared Geographic Response Plans (GRPs) which identify specific equipment and number of personnel to be used at specific locations,
- ✦ GRPs will not be done for the entire route, but only for selected sites that would be prioritized in the event of an accident, in spite of the fact that NG acknowledges that the entire marine area is a sensitive and high consequence area,
- ✦ NG has not yet identified vessels of opportunity,
- ✦ NG has not completed the assessment of what equipment it will need to meet its spill commitments,
- ✦ While NG has committed to extended responsibility that would retain and recover up to 36,000 m³ of on-water oil within 10 days, Alaska has set as a standard recovering 47,700 m³ within 72 hours.

NG has not prepared an analysis of adverse sea conditions that would preclude deployment of oil spill equipment:

- ✦ NG states that mobilization of spill equipment would only be precluded by adverse sea conditions 2% of the time for the Confined Channel Area, and 26% of the time for the Open Water Area,
- ✦ The Gap Analysis for the Fall / Winter indicate 13.5% and 68.5% preclusions respectively for these marine areas,
- ✦ There are, therefore, significant periods when spill response will be impossible or severely constrained,
- ✦ NG's preliminary analysis applies only to initial containment as opposed to active mechanical collection and recovery,

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- ✦ For Further detail, see EnviroEmerg Consulting: *A Technical Analysis of Marine Transportation Statements for the Enbridge Northern Gateway Project: Tanker Casualty Risk Reduction and Spill Response Preparedness*, prepared for Living Oceans Society.

NG further states that it will have the capability to respond to a 36,000m³ spill within the Confined Channel Area within 6-12 hours, in most conditions. This, however, is a planning standard, and is not a response time which will necessarily be met during severe winter conditions. In fact, this may not even refer to spill response by NG, but merely to monitoring the spill. NG stated that for most open ocean spills, no oil is recovered.

The Province concludes that due to:

- ✦ The potential for severe marine conditions,
- ✦ The conceptual nature of NG's planning to date,
- ✦ Lack of clarity regarding performance measures for spill response,

that NG has not shown that it will be able to establish a spill response regime capable of responding effectively to spills in the marine environment, let alone one that is world class.

Marine Risk Assessment Concerns

The Quantitative Risk Assessment (QRA) presented by NG, which evaluates the likelihood of a spill taking place, does not contain the factual basis for probability studies carried out to assess the likelihood of powered grounding, drift grounding or collision:

- ✦ The QRA is based on international statistics which are in some manner scaled to identify hazard identification along the NG shipping route,
- ✦ The QRA does not explain how the scaling factors were arrived at,
- ✦ Because of this, The Province submits that limited weight should be given to the QRA results, and that there is no way in which the JRP could rely on the conclusions made in the QRA,
- ✦ NG states that the tug escort system will have a risk reducing effect of 80% for powered groundings, 90% for drift groundings and 65% for overall incident frequency,
- ✦ However, the factual basis for these figures is entirely absent, as they are based on another study of another location which NG will not share with the JRP,
- ✦ There is no clear requirement that tanker operators use the routes that were selected for the QRA,
- ✦ Therefore, without a clear requirement that tanker operators use the routes set out in the QRA, its predictions for the probability of spills for the project are of limited value.

Summary of the Positions of the Province

Summary Respecting the Pipeline Concerns

The Province submits that the evidence on the record does not support NG's contention that it will have a world-class spill response capability in place. The challenges posed by the pipeline route, the nature of the product being shipped, the conceptual nature of its plans to date, and Enbridge's track record, means that the Province is not able to support the NG Project's approval at this time.

Summary Respecting the Marine Response Concerns

The Province submits that NG has not shown that it will be able to live up to these commitments. In the absence of detailed plans, and in particular, Geographic Response Plans, the Province remains deeply concerned that any response to a significant spill, were it to occur, would be limited in its effect, and that serious impacts on the marine environment, and the livelihoods of those who rely on it, would result. For this reason, the Province is not able to support approval of the project.

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