Gitga'at First Nation
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Joint Review Panel
444 Seventh Ave SW
Calgary, AB T2P 0X8

Attention: Anne-Marie Erickson, Secretary to the Joint Review Panel

July 11, 2012

Dear Sirs/Mesdames,

Re: Enbridge Northern Gateway Pipelines Project Joint Review Panel Hearing Order (OH-4-2011) and File (OF-Fac-Oil-N304-2010-01) Gitga'at First Nation- Notice of Motion

Attached please find a Notice of Motion filed by the Gitga'at First Nation.

Should you have any questions or require any additional information with respect to this filing, please do not hesitate to contact me.

Yours truly,

Michael Reid
ENGP Project Community Consultation Coordinator, Gitga'at First Nation

Northern Gateway Pipelines Inc.
Section 52 of the *National Energy Board Act* Application for
Northern Gateway Northern Gateway Project
NEB File OF-Fac-Oil-N304-2010-01 01
Filed 27 May 2010

OH-4-2011

NOTICE OF MOTION

Name of Person Bringing Motion

This Motion by the Intervenor, the Gitga'at First Nation, is made pursuant to Hearing Order OH-4-2011 (the "Hearing Order") and section 35 of the *National Energy Board Rules of Practice and Procedure*, 1995, SOR/95-208.

Decision or Order Requested

a) A directive detailing how the Joint Review Panel's assessment of the Northern Gateway Pipeline Project will incorporate environmental (biophysical and human) effects associated with the Proponent's:
   i) oil pipeline expansion phases II through IV,
   ii) condensate pipeline expansion phases II through III, and
   iii) tanker traffic associated with the pipeline expansions;

b) An order that the Final Hearings (including the Questioning Phase) are adjourned until:
   i) the Proponent has supplied satisfactory information on the consequences of its pipeline expansion plans for tanker traffic and shipments of oil and condensate through Gitga'at territory, the associated environmental (biophysical and human) effects, and its proposed mitigation measures,
   ii) the Gitga'at First Nation has had a reasonable opportunity to review this information and advise the Panel whether it is sufficient to understand and assess the effects of the expansions on the biophysical and human environment and Gitga'at Aboriginal title and rights, and
   iii) the Gitga'at First Nation has had a minimum of six months to assess – including obtaining its experts' technical opinion on - this information and present its conclusions and concerns in regard to these effects on the biophysical and human environment and Gitga'at Aboriginal title and rights to the Panel; and

c) Such other relief as the Panel may consider appropriate in the circumstances.

Statement of Facts

1. On January 16, 2012, the Gitgat'at First Nation wrote to the Canadian Environmental Assessment Agency (CEAA) expressing a number of concerns in connection with the environmental/regulatory assessment process conducted by the Joint Panel Review for the Enbridge Northern Gateway Project (**Letter to CEAA**), (CEAA doc # A40976), (see Appendix 1).

2. In their Letter to CEAA, the Gitga'at complained that the Proponent had not responded reasonably to their Information Request, including particularly a series of questions related to, as the Gitga'at the put it, the "proposed versus actual pipeline capacity" [page 2] (for Gitga'at's IR #1, see A35372; for the Proponent's response, see A2I8U9).

3. The Gitga'at explained that this issue more particularly:

> … has implications vis-à-vis the adequacy of the scope of the JRP. Specifically, our technical advisors have noted that all ENGP Application documentation and ENGP related technical reports, including risk and impact assessments of shipping traffic and possible malfunctions and accidents, have been developed on the specification that the project involves shipping traffic associated with transport of 525,000 bpd of crude oil and 193,000 bpd of condensate by pipeline. However, review of ENGP responses to information requests reveals that the pipeline portion of the project actually has the capacity to transport 850,000 bpd of crude oil and 275,000 bpd of condensate. In those same IR responses, ENGP has outlined the design adjustments required to transport the higher volumes, which strongly suggests they have plans to do [sic] use that capacity at some time in the future.
>
> This is more than a 60% and 40% increase in crude oil and condensate volume, respectively, than is being assessed in the current JRP process. It is reasonable to conclude that the planned increased transport through the pipeline would require commensurate change in tanker shipping and associated risks and impacts in our territory. To date we have not seen the proponent summarize the changes in tanker shipping required to accommodate full pipeline capacity nor have we seen, via qualitative risk or cumulative impact assessment methods, analysis of the risks and impacts associated with use of the full capacity [page 2].

4. The Gitga'at explained to CEAA that they were raising this and other issues:

> … because they have implications with respect to our Nation's ability to participate reasonably and effectively in the JRP and any subsequent Crown consultation processes [page 3].

5. On the aforementioned basis, the Gitga'at asked CEAA to provide responses or

clarifications to a number of questions, including:

- Will the proponent be directed to reasonably address the above noted questions we submitted in our IR. If not, will federal agencies address those information gaps?
- Will the scope of the JRP be expanded to address the full capacity of the proposed ENGP pipeline, including the required increase in associated shipping traffic and possible malfunctions and accidents? If so, will the proponent be required to assess and address the full spectrum of related impacts? [page 3]

6. The Gitga'at copied its Letter to CEAA to Mr. Gaétan Caron, Chair and CEO of the National Energy Board (**NEB**).

7. In a single-page letter dated April 24, 2012, CEAA provided its response (**Letter to Gitga'at**), (see Appendix 2).

8. In its Letter to Gitga'at, CEAA told the Gitga'at expressly that they should direct their concerns regarding the Proponent's responses and pipeline capacity to the JRP:

> Your concerns with respect to the pace of the JRP process, responses by Enbridge Northern Gateway Pipelines Ltd. to Information Requests and pipeline capacity should be directed to the JRP. As you know, the JRP is arms length from government and sits as a quasi-judicial tribunal responsible for the review process as set out in the Hearing Order. As it is the JRP that is responsible for the review process, any concerns such as those you have identified should be addressed to the JRP directly….

9. In Section 1 of its Preliminary Information Package (**PIP**), (CEAA doc #2075), filed with the NEB on November 1, 2005, the Proponent provided its overall description of its project, referring to the project's three main components and describing their functions in general terms:

> Gateway Pipeline Inc., on behalf of the Gateway Pipeline Limited Partnership (Gateway) proposes to construct and operate an export oil pipeline and an import condensate pipeline between an inland terminal near Edmonton, Alberta and a marine terminal near Kitimat, British Columbia…. Gateway also proposes to construct and operate marine infrastructure at tidewater to accommodate transfer of oil and condensate into and out of tankers, respectively. The marine infrastructure will be an integral component of the pipeline terminal near Kitimat.

10. In Section 3.3.2.1 of its PIP, the Proponent unveiled its plans regarding the quantities of oil and condensate that its project was – and more particularly its component pipelines were - then being designed to handle:

> The oil pipeline is currently being designed with an annual throughput capacity of 400,000 barrels per day (bpd) and the condensate pipeline is currently being

designed with an annual throughput capacity of 150,000 bpd (Table 3-1).

11. On December 4, 2009, the Canadian Environmental Assessment Agency (CEAA) and the NEB issued the Joint Review Panel Agreement, including the Terms of Reference, for the environmental and regulatory review of the proposed Northern Gateway Pipeline Project (the Agreement), (filing A24186).

12. Section 2 of the Agreement defines "Project" to mean:

> … the project as described in the Terms of Reference found in the Appendix to this Agreement and titled "Part I - Scope of the Project", and may also be referred to as the Northern Gateway Pipeline Project….

13. The Scope of the Project is delineated in Part I of the Terms of Reference to include:

> The project includes the construction, operation, decommissioning and abandonment of the following components:
>
> - An oil pipeline commencing near Fort Saskatchewan, Alberta and terminating at a new marine terminal located in Kitimat, British Columbia;
> - A condensate pipeline commencing at a new marine terminal in Kitimat, British Columbia and terminating near Fort Saskatchewan, Alberta;
>
> …
>
> - Marine transportation of oil and condensate within:
>   - the Confined Channel Assessment Area, as defined by the proponent, which includes the marine and shoreline area of Kitimat Arm, Douglas Channel to Camano Sound, and Principe Channel to Browning Entrance;
>   - Hecate Strait; and
>   - the proposed shipping routes to be used for the project that are within the 12 nautical mile limit of the Territorial Sea of Canada.

5. On May 27, 2010, the Proponent submitted its Application for Certificates of Public Convenience and Necessity in respect of the Enbridge Northern Gateway Project (**Application**), (A25244 – A25249).

6. In its cover letter (A1S9X4) accompanying the Application, the Proponent supplied a description of the pipeline components of its Project differing from the one it had originally provided in its PIP:

> The Project consists of three components, comprised of an oil pipeline designed for an average annual throughput capacity of 83,400 m3 (525,000 barrels) per day, a condensate pipeline designed with an average annual throughput capacity of 30,700 m3 (193,000 barrels) per day, and terminal facilities (tankage and marine) at Kitimat, British Columbia.

7. On July 28, 2011, after determining that it required further information from the Proponent on a number of engineering and environmental issues, the JRP sent Information Request No. 3 (**JRP IR 3**), (A30534) to the Proponent.

8. In the Preamble to Section 3.2 of JRP IR 3, the JRP identified statements in the Proponent's application that raised questions concerning the pipeline system's hydraulic design:

   > In reference i) and ii) Northern Gateway states that hydraulic engineering parametric analyses were undertaken to optimize the pipeline and pump station system configuration based on a hydraulics comparison. Further, the analyses considered a range of pipeline diameters, pump station locations and design pressures.
   >
   > Northern Gateway also stated that the hydraulic design incorporates the potential to expand the system capacity by adding additional pump stations and pumping facilities.
   >
   > In reference iii) and iv) Northern Gateway indicates that it has assumed an overall average daily capacity of the pipelines to be equal to 90% of the theoretical design capacity.

9. Based on the foregoing, the JRP requested further details regarding the Proponent's design process for both the oil and condensate pipeline, namely:

   > a) A detailed description of the different system designs assessed by Northern Gateway;
   > b) Hydraulic engineering parametric analyses undertaken by Northern Gateway to optimize the system;
   > c) Reasons for retaining or discarding design options;
   > d) A detailed description of the potential expansion scenarios which could be possible by adding additional pump stations and pumping facilities, including corresponding capacities;
   > e) A discussion on how Northern Gateway determined the overall average daily capacity of 90% of theoretical capacity; and
   > f) Drawings illustrating the system designs described in a), b) and d) above.

10. On August 30, 2011, the Proponent filed its response to JRP IR 3 (A31029).

11. In response to 3.2(b) above, the Proponent briefly described the parametric cost of service analysis it used to determine the optimal diameter size for the oil and condensate pipelines:

    > In order to select the optimal diameter size for the oil and condensate pipelines, a parametric cost of service analysis (or "J-Curve Analysis") was developed. This

analysis considered various diameter and number of station options and determined the optimal pipeline size for a given target capacity of a specific commodity, assuming a fixed pipeline length and system discharge pressure rating.

The cost of service analysis took into account cost of capital and operating and maintenance costs in developing the cost of service for a given flow rate.

Figures 3.2a and 3.2b illustrate the Normalized Cost of Service curves for the respective oil and condensate pipelines:

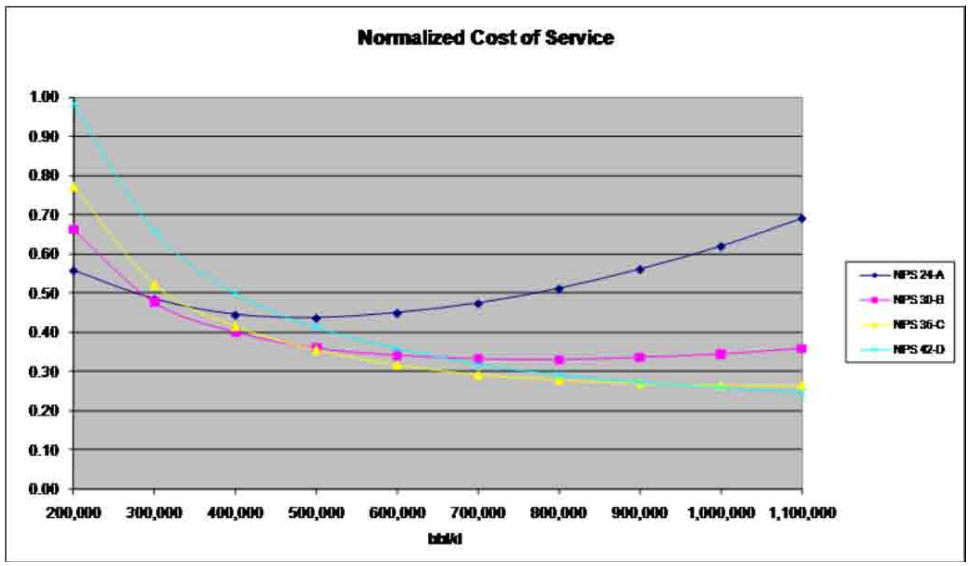

Figure 3.2a – Oil Pipeline Cost of Service Curves

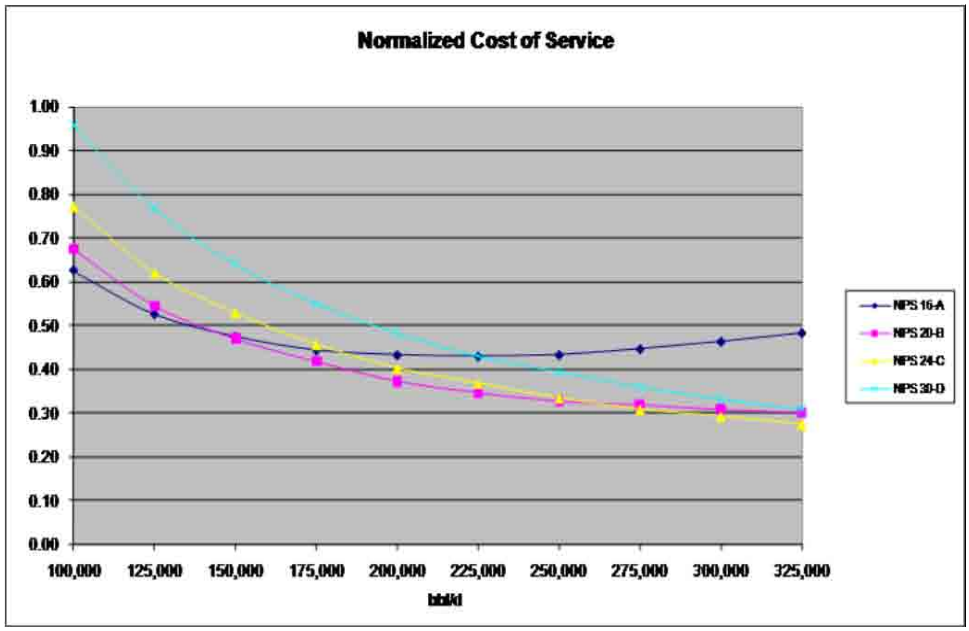

Figure 3.2b – Condensate Pipeline Cost of Service Curves

12. In response to 3.2(c) above, the Proponent revealed its target system capacity ranges for its oil (525,000 – 850,000 bpd) and condensate (193,000 - 275,000) pipeline systems and explained how it selected the diameters of the pipelines relying on its target system capacity ranges and its cost of service analysis:

    Oil Pipeline:

    The target annual capacities in 100% diluted bitumen service for the oil pipeline system range from an initial of 525 kbpd annual, to an ultimate expansion capacity of up to 850 kbpd annual. The cost of service curves presented in Figure 3.2a (above) show that an NPS 36 pipeline has the lowest cost of service for a flow range between 500 kbpd and 900 kbpd. Therefore, the NPS 36 pipeline diameter was selected as the optimal size for the oil pipeline design.

    In addition to the results of the cost of service analysis, the NPS 24 and NPS 30 options were eliminated because they are undersized. This conclusion is supported by the fact that at the target system capacity range of 525-850 kbpd, both diameter selections exceed the Enbridge typical maximum target pipeline velocity limitation of 10 ft/s and require additional closely spaced pump stations operating at higher rates, demonstrating an inefficient operating point for that pipeline size. Therefore, these options were eliminated as potential pipe diameter choices.

    Similarly, the NPS 42 option was eliminated because it is oversized for the target flow rates and would result in low velocities at initial flow rates, and a Reynolds Number below the turbulent threshold. Maintaining turbulent flow is typically targeted in pipeline operations such as Northern Gateway, where batched operations are proposed, to maintain as minimum of a batch interface as possible.

    Condensate Pipeline:

    The target capacities for the condensate pipeline system range from an initial capacity of 193 kbpd annual, to an ultimate expansion capacity of up to 275 kbpd annual. The cost of service curves presented in Figure 3.2b (above) show that an NPS 20 pipeline has the lowest cost of service for a flow range between 150 kbpd and 250 kbpd. Even though the ultimate target capacity of 275 kbpd falls slightly outside the optimal range, the NPS 20 pipeline diameter was still selected as the optimal size for the condensate pipeline design. Phases I and II target capacities fall within the optimal range of the NPS 20. The Phase III capacity of 275 kbpd annual is a long range forecast with a relatively high level of uncertainty. Therefore, increasing the pipeline size based on this long range prediction is not justified given that the NPS 20 could handle these volumes should they materialize in the future.

    In addition to the results of the cost of service analysis, the NPS 16 option was

eliminated because it is undersized. This conclusion is supported by the fact that at the target system capacity range of 193-275 kbpd, the NPS 16 exceeds the Enbridge typical maximum target pipeline velocity limitation of 10 ft/s, demonstrating an inefficient operating point for that pipeline size. Therefore, this option was eliminated as a potential pipe diameter choice.

Similarly, the NPS 24 and 30 options were eliminated because they are oversized for the target flow rates and would result in low velocities at initial flow rates.

13. In response to 3.2(d) above, prior to setting out the details of its expansion scenarios based on its target system capacity ranges, the Proponent affirmed, first, expressly that its expansion scenarios and associated facilities were not part of its applied for Project and, then, obliquely, that they were in any case outside the JRP's environmental assessment/regulatory purview:

    Tables 3.2a and 3.2b summarize the system pump station requirements for the potential expansion of the respective oil and condensate pipelines for the target annual capacities shown. Northern Gateway notes that these expansion scenarios and associated facilities are not part of the applied for Project and that the information provided in the tables has been primarily developed from a hydraulics perspective to assist in system design and pipe wall thickness selection. Further work would be done during detailed engineering to finalize the hydraulic design and to further define the locations of any potential future pump stations. Any future expansion scenarios and associated facilities beyond the applied for Project would be the subject of future regulatory applications and would include the required justification and technical and other studies.

14. Here are Proponent's descriptions of its expansion scenarios:

    Oil Pipeline Expansion Requirements (Preliminary):

    - Phase I (525 kbpd Annual)
        - o Construction of 7 Pump Stations for Initial Phase
        - o Pumps and Motors selected to allow for expansion without full replacement.
    - Phase II (600 kbpd Annual)
        - o Additional Pump Stations (4)
        - o Additional Pump Units (2) added to existing Stations
        - o Modifications to existing pump units (28) consisting of impeller trims and/or volute modifications to avoid overloading of motors at higher flow rates.
    - Phase III (750 kbpd Annual)
        - o Additional Pump Units (38) added to existing Stations
        - o Modifications to existing pump units (38) consisting of impeller trims and/or volute modifications to avoid overloading of motors at higher flow rates.

- Phase IV (850 kbpd Annual)
    - o Additional Pump Station (1)
    - o Additional Pump Units (4) added to existing Stations
    - o Relocation of Pump Units (2) from Burns Lake and Houston to new Clearwater Station
    - o Modifications to existing units (76) consisting of impeller trims and/or volute modifications to avoid overloading of motors at higher flow rates.

Condensate Pipeline Expansion Requirements (Preliminary):

- Phase I (193 kbpd Annual)
    - o Construction of 9 Pump Stations for Initial Phase
    - o Pumps and Motors selected to allow for expansion without full replacement.
- Phase II (250 kbpd Annual)
    - o Additional Pump Stations (6)
    - o No changes required to existing pump units required. VFDs utilized to operate efficiently at full range of flow requirements.
- Phase III (275 kbpd Annual)
    - o Additional Pump Unit (1) added to existing Station (Smoky River)
    - o No changes required to existing pump units required. VFDs utilized to operate efficiently at full range of flow requirements.

Grounds for the Motion

15. Although the Scope of the Project delineated in Part I of the Terms of Reference encompasses the component oil pipeline, condensate pipeline, and terminal (their construction, operation, decommissioning and abandonment), and relates generally the twin purposes of the Proponent's system, that is, to ship oil from near Fort Saskatchewan, Alberta to Kitimat, British Columbia for export and imported condensate from Kitimat to near Fort Saskatchewan, it does not define these purposes further in reference to the quantities of oil and condensate to be shipped.

16. Certainly, to describe the Project's purposes merely as being to ship oil from Alberta to British Columbia's coast and condensate from British Columbia's coast to Alberta is to say next to nothing about the scope of its purposes.

17. Consequently, the Agreement, including the Terms of Reference, leaves it to the JRP to determine the scope of the Project's purposes, near- and long-term, and thus, insofar as it depends on it, the scope of its environmental and regulatory assessment.

18. The foregoing conclusion is consistent with Sections 16(2)(a) and 16(3)(b) of the Canadian Environmental Assessment Act (Act) which taken together require every review panel assessment to include as an additional factor for consideration "the

purpose of the project" but which relieve the Minister of having to determine the scope of this factor "when fixing the terms of reference of the … review panel."

19. In its response to the JRP 1R 3, the Proponent revealed that most of its planned infrastructure (pipelines and terminal) is designed for the purpose of handling a target system capacity range, with the upper limit of the oil pipeline being 850,000 bpd (60% more than its lower, "initial" limit) and the upper limit of the condensate 275,000 bpd (40% more than its lower, "initial" limit).

20. It should be noted that the aforesaid upper limits rest upon the Proponent's cost of service analysis rather than the ultimate physical capacities of the pipelines, which can handle yet higher volumes.

21. Further in its response to JRP 1R 3, the Proponent also revealed that expanding its oil pipeline system to handle the upper limit of its target system capacity range would involve little more than the addition of 5 pump stations and 52 pump units, and some straightforward modifications to its pump units.

22. Expansion of its condensate pipeline system to handle the upper limit of its target system capacity range would involve little more than the addition of 6 pump stations and 13 pump units and no modifications to its pump units.

23. Although the increased throughput of oil and condensate must have an effect on tanker transport, the Proponent has not demonstrated any interest in producing and providing the requisite analysis to the Gitga'at or the JRP.

24. Nor, in consequence, has the Proponent proffered an analysis of the consequent environmental (biophysical and human) risks and effects associated with the changes in oil and condensate tanker traffic.

25. That the Proponent's full-out expansion is – *a fortiori*, its lesser expansions are -, the polar opposite of hypothetical or speculative is demonstrated sufficiently by its front-end investment in the infrastructure (pipelines and terminal) needed to handle the upper limits of its target system capacity ranges for oil and condensate, leaving it with relatively minor additions and modifications to expand, whether incrementally or all at once.

26. Further evidence serving to confirm the aforesaid conclusion includes, among others, the facts that:

    - in response to the JRP's IR No. 2, and in particular to 2.5 of the JRP's IR, the Proponent provided an updated (2011) CAPP forecast for Western Canadian Crude Supply (**WCCS**) which suggested, it claimed, "that supply for new pipeline projects will be available earlier than anticipated one year ago" (e.g. whereas the 2010 forecast, on which the Proponent depended in its Application, anticipated that the WCCS would reach over 4,000,000 bpd in

2022, the 2011 forecast says it will reach over that amount in 2018) - all of which indicates that the Proponent believes that the oil supply will be available for an expanded system even earlier than it had believed when it submitted its Application (A2C2V5); and

- in its response to JRP 3, noted above, the Proponent affirmed that from its cost perspective, the efficiency of the oil and condensate pipelines improves as the throughput increases from the lower limits of its target system capacity ranges to the higher – combined with the forgoing revised forecast, this promised efficiency is an even more powerful incentive to expand, sooner rather than later and to the fullest extent that the WCCS will support.

27. Unless the JRP includes the Proponent's designed-for expansions and, accordingly, the consequent tanker-related environmental (biophysical and human) within the scope of its assessment, the Proponent will effectively be allowed to split its project so as to avoid subsequent environmental assessment of its expansions.

28. In reply to the claim that it is attempting to split its project to avoid subsequent environmental assessment, the Proponent would likely want to draw attention to the Terms of Reference where, after listing the components included in the Project, it is stated:

> Any additional modifications or decommissioning and abandonment activities would be subject to future examination under the NEB Act and consequently, under the Act, as appropriate.

29. Since for present purposes the weight of the aforesaid statement falls on the words "any additional modifications", it should be noted that Section 7.1 of the Act defines "modification" to exclude expansion:

> "modification" means an alteration to a physical work that does not alter the purpose or function of the work. It does not include an expansion or a relocation.

30. Manifestly, the Proponent's expansions do not alter the general purposes or functions of its proposed pipeline system.

31. Furthermore, because the Proponent's expansions depend on the mere addition and modification of pumps, under Section 58(1) of the National Energy Board Act, the Minister may make an order exempting the Proponent's expansions from the full regulatory scrutiny otherwise required.

32. The Gitga'at respectfully remind the JRP that the Proponent must not have the last word on the scope of the JRP's environmental and regulatory assessment of the Project and its effects.

Decision or Order Sought

a) A directive detailing how the Joint Review Panel's assessment of the Northern Gateway Pipeline Project will incorporate environmental (biophysical and human) effects associated with the Proponent's:
   i) oil pipeline expansion phases II through IV,
   ii) condensate pipeline expansion phases II through III, and
   iii) tanker traffic associated with the pipeline expansions;

b) An order that the Final Hearings (including the Questioning Phase) are adjourned until:
   i) the Proponent has supplied satisfactory information on the consequences of its pipeline expansion plans for tanker traffic and shipments of oil and condensate through Gitga'at territory, the associated environmental (biophysical and human) effects, and its proposed mitigation measures,
   ii) the Gitga'at First Nation has had a reasonable opportunity to review this information and advise the Panel whether it is sufficient to understand and assess the effects of the expansions on the biophysical and human environment and Gitga'at Aboriginal title and rights, and
   iii) the Gitga'at First Nation has had a minimum of six months to assess – including obtaining its experts' technical opinion on - this information and present its conclusions and concerns in regard to these effects on the biophysical and human environment and Gitga'at Aboriginal title and rights to the Panel; and

c) Such other relief as the Panel may consider appropriate in the circumstances.

All of which is respectfully submitted this, July 11, 2012

Michael Reid, ENGP Community Consultation Coordinator, Gitga'at First Nation