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Order of Appearances

Enbridge Northern Gateway Panel 4

Pipeline & Terminal Environmental & Socio-Economic Assessment Panel

Mr. Paul Anderson	Ms. Colleen Bryden	Dr. Colin Buchanan
Mr. Ray Doering	Mr. Tom Fiddler	Mr. Jeffrey Green
Mr. David Reid	Mr. Gord Rozon	Mr. John Thompson
Mr. Michael Preston		

Examinations

Examination by Mr. Tim Leadem for the Coalition (continued) 26448
Examination by Mr. Rangi Jeerakathil for Enoch, Ermineskin & Samson Cree Nations 26968

Examination by Mr. Tim Leadem for the Coalition (continued) 26448
(ForestEthics Advocacy, Living Oceans Society & Raincoast Conservation Foundation)

Mr. Leadem had asked yesterday about prediction confidence measures, and Mr. Preston had referred him to Table 9.74, “Prediction Confidence” in [Exhibit B3-7](#). Today, Mr. Leadem said that the table “is basically a subjective analysis.” Mr. Preston called it “a qualitative categorization of prediction confidence.”

Some discussion ensued about BC’s Terrestrial Ecosystem Mapping and the Wildlife Habitat Rating Standards and who actually created the ratings on Table 9.74. Mr. Preston said it was Stantec employees.

Mr. Leadem asked, referring to Table 9-86, “Is it not the case that you have low confidence in the current mitigation measures for effects, for mitigation effects, on caribou, grizzly and wolverine? Mr. Green replied, “You’re right. ... Northern Gateway has committed to a follow-up program.” 26484

Mr. Green explained, “There’s actually four components for caribou as an example,” and he names three. “There’s the protection plan, what we call the “restoration plan” which is how we restore habitat along the right-of-way, there’s the compensation plan for how we restore habitat off site -- so it’s an offset -- and then, most importantly in relation to your question, is the monitoring of effectiveness of those features as well as the caribou. So that’s the follow-up.” 26490

Mr. Leadem: “Who would be monitoring the monitors?” Mr. Anderson provided an extensive answer, from which it appears that “information is collected and ... would need to be submitted to the Board” 26494

Cumulative effects

Mr. Leadem cited a definition of cumulative effects from the CEA Act: “changes to the environment caused by an action in combination with other past, present or future human actions.” Mr. Green agreed that incremental effects may be significant even though the effects of each action, when assessed independently, are considered insignificant. 26515

Mr. Leadem asked if Northern Gateway has taken into consideration an “integrated ecosystem-based approach towards assessment as opposed to an incremental-based assessment?” “Have you, for example -- you’ve defined VECs for a number of -- you know, the value of ecosystem indicators or components. Have you considered the interactions between VECs?” “Have you considered the synergistic interactions among activities in coming to your conclusion about incremental effects?” 26524

Mr. Green struggled briefly with these questions, then suggested that it would be more useful to speak about a specific example. Mr. Leadem noted that the pipeline is an 1000 km linear disturbance then gives an example of a caribou crossing a road beside the pipeline, which does not get hit by a truck, but then gets eaten by wolves when crossing

the pipeline. Mr. Green said that “the linear feature density analysis [does] what you’re talking about. 26536

Mr. Leadem moved away from cumulative effects and back to validating the models. He and Mr. Green agree that a model is not reality and there is uncertainty built into any model. “One way to remove the uncertainty ... is to do more data collection,” said Mr. Leadem. “I’ve never worked on an environmental assessment ... in which people haven’t asked us to collect more information. More information is always better. The challenge is to collect the appropriate amount of information to allow you to do an adequate assessment,” replied Mr. Green. 26557

Key indicators (KIs)

Mr. Leadem said, “I suppose if we ask two biologists to pick key indicator species for this particular project that we get different lists from each one of them.” Mr. Green said, “I wouldn’t agree with you on that.” He discussed valued environmental components and key indicators as relating to societal values and what groups deem important. In determining VECs and KIs, “we listen to” aboriginal groups, the public, regulators. 26582

Telkwa caribou herd

Mr. Leadem established some facts. The Telkwa herd of woodland caribou is migratory, and migrates between summer and winter feeding areas. In Route Revision U, the pipeline proposal transects a section of the herd’s range for a length of 48 to 56 km. In Route Revision V, the pipeline is moved south, but still within the herd’s range. 26605

Mr. Leadem proposed, “When assessing the significance of effects at a population level, 1 percent threshold of population change is a significant trigger; would you agree with that?” Ms. Bryden did not agree, because they did not specify a population threshold with their assessment. One percent was used in the ESA for bird populations. 26625

“We didn’t specify a threshold for any mammal species related to change in population. ... The intent of the mitigation measures proposed for caribou and within caribou herd range is to -- the objective is a no net increase in linear feature density and, as we’ve discussed before, we link linear feature density to mortality risk for caribou.” 26632

“As we did for the other four caribou herds that are affected by the project, we looked at change in habitat availability, potential change in movement patterns and change in mortality risk.” 26635

Discussion continued about the boreal caribou recovery strategy, and the BC naming system for caribou. The Telkwa herd is technically a northern caribou eco-type. It is listed as threatened in COSEWIC and is on Schedule 1. It is blue-listed in BC. There were 78 members of the herd a couple of years ago.

Mr. Leadem asked if NGP has “any proposals ... to actually investigate the Telkwa with regard to either wolf predation interaction or potential impacts of the pipeline upon its territory and habitat?” Mr. Anderson replied, “We are looking to fund a research chair,”

and Mr. Green spoke about a future initiative to “find ways to remove appropriate amounts of access.” But nothing about wolf predation. 26670

Plants and powerline easements

Mr. Leadem said, “My understanding is that there’s at least four power line easements that will be servicing the pipeline throughout its length in British Columbia.” These would be Mr. Doering said that power would be needed at the pump stations and the tunnel construction area. Mr. Leadem listed four new easements, known as Tumbler Ridge, Houston, Bear Lake, and Hoult Clore. Mr. Doering said that for Houston, they hoped to use the line servicing the Huckleberry Mine, and Bear Lake would be very short. 26678

Mr. Reid said, “Rare plant surveys were conducted along the powerline routes.” Then he corrected himself and said they had committed to do the surveys following project approval. 26696

Fish

Mr. Leadem called up “Pipelines and Salmon in Northern British Columbia” prepared by David Levy for the Pembina Institute, and filed by the Coalition ([Exhibit D66-3-6](#)). His line of questions went to concerns about certainty with respect to impacts to salmon habitat and the risks of an oil spill. He displayed three maps portraying streams with salmon and asked for confirmation that the maps are accurate. Mr. Anderson said the resolution was not good, but generally agreed. To his question about PAHs being “the most toxic” to fish and invertebrates, the witnesses said it was out of their expertise, and he should have asked the previous panel. 26715

To the statement that, ““The risk of impacts from pipeline construction and failures should not be assessed and managed in isolation of other environmental impacts,” Mr. Anderson agreed. 26740

Mr. Leadem asked if NGP had focussed on conservation units of various salmon in the watersheds passed through by the pipeline in its analysis of fish and potential impacts. Mr. Anderson said, “No, we did not. We focused on the zone of influences at the various watercourse crossings along the route.” 26743

Method to determine type of stream crossing

Mr. Leadem asked about the method by which NGP rated the 669 streams to determine what type of crossing would be used for each. He asked a number of questions about meetings with DFO. 26751

Horizontal directional drilling

Mr. Leadem asked what steps will be taken to prevent “frac-out” that might introduce fluids and harmful substances into watercourses during the course of horizontal directional drilling (HDD). Mr. Doering said, The main mitigation to ensure frac-outs don’t occur is related to the crossing technique, the drill path taken and the engineering. Water sampling would accompany the drilling to identify leakage or escape of fluids. 26775

Later, Mr. Leadem asked if NGP would commit to conduct water sampling. Mr. Anderson said they would. He also asked questions about the sampling methods. Mr. Anderson said that typically in the field you use turbidity as a surrogate for total suspended solids (TSS). Bentonite clay is the main constituent of the directional drilling fluid. 26805

Mr. Leadem asked specifically about the crossing at the Sutherland River, KP856.2. Mr. Anderson said it is proposed as a trenched crossing, using an isolated crossing method. It is a gravel bed. Because it is spawning habitat, “we propose to do it in an isolation technique in the wintertime, during low flows and outside of the spawning window.” 26785

Mr. Leadem lead Mr. Anderson to agree that they will take another lothe population in the Nechako Basin of the white sturgeonok at the crossing methodology and will consider a trenchless method, borehole or HDD, for the Sutherland crossing.

White sturgeon

Mr. Leadem asked about two species of white sturgeon that could potentially be impacted by the proposal, the lake sturgeon of Alberta and the white sturgeon of British Columbia. Mr. Anderson said that “With our commitment to do a trenchless crossing at the Nechako River, we would not see any impacts to white sturgeon,” and they have a “sturgeon protection plan” for the North Saskatchewan River crossing. 26817

Mr. Leadem asked about the population in the Nechako Basin of the white sturgeon which is believed is found in the Stuart River from Stuart Lake to its confluence with the Nechako River. He is referred to [Exhibit B11-1](#) (which estimated fewer than 500 in the Nechako River population). 26839

Construction environmental protection management plan

A preliminary EPMP was filed as [Exhibit B3-19](#) and a final plan will be submitted 60 days before construction. Mr. Anderson said there may be a series of EPMPs. Mr. Leadem asked if the environmental inspectors are presumed to be employees of Enbridge. Mr. Anderson said there could be a number of arrangements, including employees, contractors, third-party. 26843

To a similar question about environmental auditors, Mr. Anderson gave a similar answer. Mr. Leadem asked, “Would it not make sense from a transparent and an accountability perspective to actually have these auditors be independent third-parties as opposed to employees and/or contractors of Northern Gateway?” Mr. Fiddler defended Enbridge’s existing internal specialists who establish performance and expectation standards, and who also perform internal audits. Nevertheless, he did agree to take a look at hiring someone who is independent from Enbridge, totally, to do this auditing. 26858

Permits, conditions, approvals, etc.

Mr. Leadem notes Table 4-2 in the EPMP which lists provincial permits, conditions, approvals and notification requirements. He asked if NGP has started discussions with a view to obtaining those permits in Alberta or BC. Mr. Anderson says they have not,

thought they have obtained “things like investigative use permits.” “We don’t expect to see difficulty in obtaining permits once our certificate has been granted.” 26878

Table 4-1 lists federal permits. Mr. Leadem noted that the first in the list are approvals under the National Energy Board Act. He asked will you would be guided by the regulatory scheme in place at the time or will you go back to the regulatory scheme at the time that this was proposed? Mr. Anderson said he would need legal advice. 26895

Enbridge lobbying for legislative changes

Mr. Leadem: “Isn’t it the case that Enbridge has been lobbying the federal government specifically with respect to the Fisheries Act, the National Energy Board Act, the Navigable Water Protections Act to affect these changes in legislation to enable the project to proceed?” Mr. Langen questioned the relevance of the question. 26914

In reply to a question from the Chairperson, Mr. Leadem said, in part, “As a matter of public interest, ... it’s my submission, with respect -- that trust can only be conveyed and public interest satisfied if we know that the Proponent is not actually lobbying the federal government to achieve a different state of affairs in terms of its original commitments and proposals and promises. And I submit, with respect, that I should be allowed to conduct this line of questioning.” 26918

Later, he said, “We would like to know if the Proponent is committed to actually conducting and carrying out the proposal as framed or whether it’s also embarked upon a course of action to actually change the legislative landscape to enable this project to be built without the necessary environmental guidelines that may restrict the project.” 26931

After a pause, the Chairperson said that “the Panel is questioning the relevance of the question, but let’s have you ask the question and then move on to your next line of questioning, please.” Mr. Leadem: “Actually, that was my last question so it’s not a question of moving on.” 26942

Mr. Leadem restated the question, “Is it not the case that Enbridge has been lobbying the federal government to affect changes, for example, to the Fisheries Act to enable the construction of the Northern Gateway Pipeline to be built without the necessary attendant former environmental measures that are detailed in the EPMP?” Mr. Anderson denied any knowledge of such activities, though he did say that “there was some efforts” to obtain clarity on the regulatory side of things with respect to the Omnibus Budget Bill. 26945

Mr. Leadem said he would pursue this again in the hearing, and the Chairperson said, “the Panel will assess at any time that you raise subsequent questions in this area, the relevance of it to this file.”

Examination by Mr. Rangi Jeerakathil for Enoch, Ermineskin & Samson Cree Nations 26968

Mr. Jeerakathil asked if the list of aboriginal groups listed in Table 1-1, ATK Program Status Overview, [Exhibit B40-3](#), represents all the Aboriginal groups through whose territory the pipeline passes. Dr. Buchanan said that “it does not necessarily reflect territories that the pipeline right-of-way passes through,” and is only the groups involved in the aboriginal traditional knowledge (ATK) program. 26968

He asked if they have a list of “that type of information” and was referred to the Aboriginal Consultation Panel. He then asked if they have “a general idea of how many rights holding groups traditional territory the pipeline passes through.” Dr. Buchanan asked him to bear with him a minute, then said, “We’re unable to say.” 26983
Mr. Jeerakathil was able to ascertain that “approximately” 35 ATK studies have been completed.

Mr. Jeerakathil also hoped to review maps which show the spatial and temporal extent of current use of the Aboriginal groups. Dr. Buchanan led him through a series of exhibits which may have been no more productive than the first set of questions. Readers are invited to follow this discussion, involving downloads of multiple large exhibits, incorrect references in the transcript, and which begins at paragraph 27004.

The information Mr. Jeerakathil was looking for is unavailable in any coordinated way because much of the ATK information is bound by confidentiality, maps are dated, maps have a different specific purpose, etc.

CEAA guide re significant adverse environmental effects

Mr. Jeerakathil introduced an aid to questioning (AQ), which is a 1994 reference guide for the Canadian Environmental Assessment Act determining whether a project is likely to cause significant adverse environmental effects. He asked if it has been used in the preparation of the environmental assessment. Mr. Green assured him that it has been used.

Discussion of the CEAA guide and its use in the Northern Gateway application begins at 27054 in the transcript for readers wanting to follow closely.

Mr. Jeerakathil noted that the document sets out a general framework for significance determinations and sets out three steps; one, deciding whether the environmental effects are adverse; two, deciding whether adverse environmental effects are significant; and three, deciding whether the significant adverse environmental effects are likely. Mr. Green said, “Our methodology is set out very clearly in section 3, and it incorporates all three of these steps.” 27081

No net gain in linear feature density

Mr. Jeerakathil highlights NGP’s commitment of “... ‘no net gain in linear feature density’ in sensitive areas as the underlying objective [for] the Northern Gateway Access Management Plan.” He asked what is a sensitive area under the access management plan. Mr. Green replied that they are currently five caribou priority areas and on grizzly priority area. They are not set out under legislation 27166

Mr. Green said that the commitment by NGP is to compensate on a hectare-for-hectare basis, “find other areas where we can remove linear features of a similar area to what is being created by the project.” 27183

No significant adverse effects on those who depend on the land and water

Mr. Jeerakathil quoted from Exhibit B38-22, "Northern Gateway has determined that the project is not likely to cause significant adverse effects on wildlife and/or on the environment. Northern Gateway is therefore confident that the Project will not have significant adverse effects on those who depend on the land and water for sustenance, including Aboriginal groups who may exercise their Aboriginal or Treaty rights in the use of land for traditional purposes." 27209

He asked, Are you "assuming that if there is no impact on a species harvested, there is no impact on the associated Aboriginal or Treaty harvesting rights?" A long discussion followed.

Residual effects analysis

Mr. Jeerakathil asked, "Can you confirm that in the environmental assessment you did not do a separate residual effects analysis for Aboriginal -- for impacts to Aboriginal and Treaty harvesting rights?" Mr. Green said, "We didn't do it specifically for Aboriginal use. But we did do it for all of the valued environmental components which support the argument that's being put forward." 27246

Restricted access to right-of-way

Mr. Jeerakathil asked if there will be access restrictions to the right-of-way, by fencing, perhaps. Mr. Fiddler replied, "Not specifically with fencing. Having said that, our intention of course is to prohibit access to the right-of-way in the interests of public safety and stakeholder safety during construction activities and there may in fact, as we move forward into the operational phases and final cleanup, we may in fact build impediments such as rollback and the like to inhibit public access. It would part of our linear disturbance compensation program." 27256

Mr. Green added to the reply, specifically with respect to having an Aboriginal person participate with development of the access plans in their territory. 27261

Questions and discussion about the nature of access restrictions continue at 27268.

How feedback from First Nations has been incorporated

Mr. Jeerakathil quotes from Exhibit B38-22, "Feedback from ATK studies will be incorporated into Project planning as and when it is received." He asked if they can explain how feedback has been incorporated. Mr. Anderson began his reply by stating, "Information regarding traditional uses of the land has been incorporated into project planning in many ways. We've used that information for developing the route and we've made many alterations to the route." 27280

Mr. Jeerakathil asked for a specific example. Mr. Doering and Mr. Anderson each provided some examples. 27289

Funding for ATK studies

Mr. Jeerakathil asked, “Did Enbridge have a policy or a guideline, internally, with respect to determining which First Nations will receive ATK funding to complete the ATK studies?” Dr. Buchanan replied that funding was dependant on a number issues, including proximity of the right-of-way, and potential impacts. “But you can get further clarification on this from the Aboriginal Consultation Panel.” 27309

Examination by Mr. Terry Vulcano 27320

Project demands on local resources: 9 months

Mr. Vulcano began with the socio-economic conditions and quoted, “Human health concerns during construction include possible increased demands on community health facilities by project workers, interactions between construction workers, and local residents.” He asked, “What records does the Proponent have from past construction that track interaction between workers and residents?” 27333

Mr. Fiddler said the transient workforce will typically move through and area in less than nine months. They will track and report Aboriginal employment, and medical aids. He was not aware of any other tracking. He added that they have their own qualified emergency medical technician, but occasionally need to evacuate to hospital.

Mr. Vulcano explained that his main interest is the influx of the transient population, which will create demands, and then that interaction with the residents is going to create tensions. “What do you have from the past that you're looking at that says, well, here, we won't make this mistake again or we could do this better? Mr. Anderson spoke to measures included in Volume 7a, including things like dust control and rules around camps. 27342

Quoting from Adobe page 90 of [Exhibit B13-6](#), Mr. Vulcano posits, “...2,000 to 3,000 will be directly employed during the peak periods...”. He asked what increase to local populations will result in each municipality. He has at hand an AQ that relates to large influx of workers for oilfield projects. 27353

Mr. Thompson answered that the 2000-3000 figure is for the entire project in both provinces, that in NGP case the majority of workers will be in mostly self-contained camps, at some distance from communities, and then only for six months. It's a very different picture than the “shadow populations” talked about in the AQ. 27369

Mr. Thompson said that in the pipeline experience, there hasn't been much interaction in the case of law enforcement or health where these camps have been used. 27383

Considerable discussion ensued between Mr. Vulcano who argued that the AQ model is applicable to the NGP project and the witnesses who explained why they believe it does not.

Mr. Thompson agrees that Kitimat is different, and is more like the AQ model. He said, “I have done the calculations for Kitimat. With the exception of the six months of pipeline, the work force, even at peak, is actually below that 10 percent threshold that’s talked about in Alberta.” 27412

Extent to which economies will benefit

In Section 4.1.7, Mitigation and Effects Management (Adobe page 129), Mr. Vulcano quotes that the “Extent to which economies will benefit will depend on.”; then there is four points, the employment and procurement, the capacity of suppliers, number of skilled -- of available workers and economic conditions. 27432

Labour requirements

His first question, “If local people are not available for employment, do the policies allow employing outside the region?” Mr. Thompson said “Yes” and explained in some detail, including “to a large degree, workers are going to have to be brought in to the region to do it -- to construct the project.”

He asked about “accelerating the number of registered apprentices”, one of the strategies to mitigate the need to mitigate the effects of labour shortages (Adobe page 130). Mr. Fiddler spoke to discussions NGP has had with labour unions, which, he claimed, are “aggressively trying to grow their membership.” 27468

Continue in the transcript

Mr. Vulcano’s questions continued in considerable detail for another hour. In the interests of brevity, and because the point-by-point style of questioning doesn’t lend itself to summarization, we will quit these notes at this point and let the interested reader continue directly in the transcript. After the break, at paragraph 27500.