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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. Jesse McCormick for the Haisla Nation 27716
Examination by Ms. Jennifer Griffith for the Haisla Nation 28652
Examination by Ms. Dominique Nouvet for the Swan River First Nation 28735

Examination by Mr. Jesse McCormick for the Haisla Nation 27716

Blasting

Mr. McCormick sought to confirm a number of details with respect to blasting: that blasting will be required for the pipeline, access roads, and tank terminal. Approximately 400 blasting events will be required over 24 months for the terminal development.

Extensive blasting will be required for the two 6.5 km Hoult and Clore Tunnels, each approximately 5 m in diameter. The pipeline will require, at current estimates, 140 km of rock ditch. 27716

Mr. Fiddler confirmed these details in general. He said that the details with respect to tunnel boring equipment haven't been defined but preparation of the tunnel access and egress points will include blasting. The 140 km of rock ditch will not all need to be blasted and may be broken up by hydraulic hammers. Access road to the tunnels may be able to make use of road built for the PTP pipeline. The blasting requirement associated with right-of-way grading is unknown at this point.

Mr. McCormick asked if blasting can cause sensory disturbances which may adversely affect habitat use or effectiveness by wildlife. In addition, he asked specifically about disruptive effects on mountain goats and grizzly bears. Mr. Anderson and Ms. Bryden confirmed that that it can, depending on timing and location. 27761

Mr. Fiddler said that a design depth of cover of 0.6 metres enables them to manage the extent and volume of explosive used, and the risk relative to sensory impacts. 27811

Mr. McCormick asked how long each tunnel will take to build. Mr. Fiddler said that indications are that the tunnels themselves will be largely completed by tunnel boring machines, even though the portals will be blasted. On the other hand, if they decide to blast the tunnels, the approach would be to do the portals, then once they are inside the mountains, the noise effect will be substantially reduced. One of the concerns with the tunnels is mountain goats. Ms. Bryden added that the least risk period for mountain goats in that region is June 15 to October 31 and the intent would be to limit work within that window. 27824

Environmental timing constraints

Mr. McCormick asked Mr. Green to verify that “Northern Gateway is of the view that some of the adverse effects associated with construction may be addressed through the application of environmental timing constraints.” Please provide an example. Mr. Green said that a good example would be pre-clearing for migratory birds. The clearing will be done outside of the critical windows. 27844

When the construction schedule cannot change, is there a higher likelihood of an adverse environmental effect than when a timing constraint can be implemented? Mr. Green said that's not necessarily a valid assumption. You would look at other measures.

Mr. McCormick asked, “When will the environmental timing constraints be identified and incorporated into the construction schedule?” Mr. Anderson said those are a considerable part of a detailed design on the environmental side. 27861

General and specific plans

Mr. Green said that in this plan they will have specific plans for individual species or groups of species. He mentioned a caribou protection plan, a grizzly bear protection plan. There will very much be a fisheries protection plan, a migratory bird protection plan. You

will also have the general wildlife plan that's referred to in Volume 7A, the Construction Environmental Protection and Management Plan ([Exhibit B3-19](#)) And the alignment sheets will be notated with the timing windows. 27867

Mr. McCormick asked, "How does Northern Gateway decide when the construction schedule cannot be changed to accommodate an environmental timing constraint?" Mr. Anderson provided some reasons when that issue arises, and said we would work with provincial authorities, or if we run into an in-stream constraint, we may need to do a trenchless crossing. 27875

Mr. McCormick asked the question again. Mr. Anderson explained that the project will be undergoing a detailed project execution planning exercise in the coming months and year. During that process, timing constraints will be identified, and where we identify timing pinch points or areas where we may be challenged in order to meet those timelines - that's when the consultation process begins with the agencies, with the provincial and the federal governments, and with other parties that may be affected. 27884

Has NGP a set of criteria to help with decisions? Mr. Anderson: It really is a case-by-case situation where you're working very closely with the project team. There are many things that a project can do in order to meet timing constraints. You can add equipment, add crews, you can do workarounds, there's many different things that can be done to accommodate timing constraints.27893

Mr. McCormick: Will outcomes from the planning exercise be available for the Joint Review Panel prior to making a decision on this project? Mr. Anderson: Unlikely. 27897

Involving Aboriginal communities

Will Northern Gateway involve any third-party stakeholders or Aboriginal groups when the decision is made not to accommodate sensitive environmental timing for particular construction activities? Mr. Anderson: It's unlikely that we'd have changes to environmental timing constraints in areas of high environmental sensitivity. These would be more where there's general timing constraints. We would continue our consultation process throughout construction and through operation and the life of the project. 27904

Mr. McCormick asked if "Northern Gateway have a process in place to ensure active solicitation of ... information from third-party stakeholders and Aboriginal groups in relation to particular construction activities and environmental timing constraints?" Mr. Anderson replied, citing NGP's centerline surveys and the commitment that local Aboriginal communities would participate, and the NEB process for which Aboriginal consultation is the first certificate condition. 27912

Mr. McCormick: "Can [you] confirm that the protection of wildlife will take priority over meeting Northern Gateway's construction schedule and plan date for commencement of operations?" Mr. Anderson's reply included, "Environment cannot take priority in all cases." Mr. Green added his comments, as well. 27916

Mr. McCormick noted that three different terms have been used to describe Aboriginal populations: reserves, groups and communities. Mr. Thompson explains their usage, and why it is that way. A group would typically consist of a First Nation. A First Nation may have many reserves, though only one or two of those may be populated, so that (reserve) would be the community. A community is a populated reserve tied to a First Nation. A longer discussion is in the transcript at 27930.

Socio-economic assessment

Northern Gateway has collected baseline information about the existing social and economic characteristics of the communities near the proposed pipeline. It and has used that baseline information to assess the socio-economic effects of pipeline construction and operation on local people. Mr. Thompson confirmed this for Mr. McCormick. 27923

In [Exhibit B10-6](#), NGP says that “The six regions collectively include 68 reserves from 49 Aboriginal groups with interests in the study area. However, only 31 of these reserves contain Aboriginal communities for which Statistics Canada provides at least partial census data.” Mr. Thompson said Statistics Canada will not release detailed information for small populations, and for some communities there is simply no information. An example in the 2006 was Kitimaat 2 Reserve, essentially Kitimaat Village, for which there was only a population count and age distribution. Nothing else. 27929

Mr. McCormick put up Table 2-4, Population Composition by Region, 2006, and asked if it is subject to the same data gaps as noted above. Mr. Thompson said that because these are population counts, and Kitimaat Village did have the count, this is a fairly accurate representation of the total number of Aboriginal people living on reserves. 27952

Mr. McCormick turned to [Exhibit B39-3](#), and this quote: “Given these conclusions for routine activities, as no significant adverse environmental effects are predicted for terrestrial or marine biota or the ecosystems on which they depend, the Project is also not expected to result in any significant adverse effects on the abundance, distribution or diversity of resources harvested by Aboriginal people or the land which supports these resources.” The lengthy discussion about the correct meaning and implications of this quote begins in the transcript at 27960.

Mr. McCormick asked whether the significance of the effects contained in the ESA were premised upon the legislative framework and not the Aboriginal perspective. Mr. Anderson agreed that was correct. 28012

Grizzly bears

Mr. McCormick displayed Figure 9-3 of Volume 6A ([Exhibit B3-6](#)). It displays sensitive areas for wildlife in Western British Columbia as determined by Northern Gateway. The pink dotted lines indicate grizzly bear population units and he noted that the proposed right of way traverses both the Bulkley Lakes Grizzly Bear Population Unit (GBPU), as well as the North Coast GBPU. 28035

Subsection 9.2.1 of Volume 6A, which identifies key project issues for wildlife. He asked Ms. Bryden if all of the potential environmental impacts of project activities displayed

here have the potential to impact grizzly bear populations? Ms. Bryden said, “The three main effects identified here -- change in habitat availability, change in mortality risk, and change in movement -- have the potential to affect grizzly bears, that's correct. 28045

The questions and discussions about grizzly bears continues at length, touching on its blue-listing in BC and a species of special concern with COSEWIC and the potential threats it may be presented with by the project construction and operation.

Mortality risk is of greatest concern

Ms. Bryden said that change of mortality risk would be the most concern with this project, because it creates linear feature access on the landscape. She also said that “linear feature development, roads in particular, is recognized as a factor affecting grizzly bear populations.” “Typically as the result of human activities, for example hunting and poaching.” Mr.Green added that “The intent in the grizzly bear areas is not to provide access along the right-of-way.” Mr. Preston said, “We use an 800-metre buffer for the construction phase of the project along the right-of-way. During the operations phase we've applied a sensory disturbance buffer of 400 metres.

Mr. McCormick displayed Table 9-4, Key Indicators of Environmental Effects on Wildlife, and asked why “Movement” was not an effect analyzed for grizzly bears. Ms. Bryden explained that effect of the right-of-way was not considered to be a major potential adverse effect on grizzly bears. Mortality risk to grizzlies, as a result of human access to the linear feature, is of greatest concern. 28136

Mr. McCormick touched on grizzly bear ranking in BC's Conservation Framework. 28161

Environmental effects monitoring program

A framework for an environmental effects monitoring program (EEMP) was supplied to the Joint Review Panel for the pipeline (Exhibit B45-39). Mr. McCormick asked when a final environmental effects monitoring program might be finalized. Mr. Anderson said fairly soon after certificate approval. 28181

Mr. Anderson said that a follow-up EEMP will be implemented during construction of the pipeline. 28199

Mr. McCormick proposed that “there is no firm commitment from Northern Gateway to undertake programs to estimate population size and trends [of grizzly bears]. Mr. Green said there already is a firm commitment. He described work NGP is doing with the Kitselas First Nation, a very intensive ground-based survey. Part of that work is going to ... identify means to reduce linear feature density. So I would say that the work has already begun. Northern Gateway, in the same volume, made a commitment to develop a linear feature removal plan specifically for this population because of the concerns about the amount of linear feature density and how this project and the PTP project will change linear feature density in this area.. 28201

Mr. McCormick questioned the meaning of “long-term” in this quote from Exhibit B3-6:

“For this assessment, an effect is considered not significant when the Project is not expected to result in an effect on the long-term viability of a wildlife population (e.g. subpopulation, herd or management unit, as appropriate). It is considered significant when there is a moderate to high probability that the Project may result in an effect on the long-term viability of that same population.” Mr. Green said, “Long-term viability for a wildlife population I would define it as being an effect that persists for more than one to two generations, or lifespans of the species.” Ms. Bryden added, “A generation for a grizzly bear may be 25 years.” 28220

Linear feature density as surrogate for population viability

Mr. Green said, “For our assessment, we've used the linear feature density, as I'm going to call it “the surrogate”, for a threshold for population viability. A grizzly bear population ecologist would likely use a broader suite of measures that would look at fecundity or the recruitment potential mortality and the like. What we've done is used a parameter that we believe captures the mortality concern which, obviously then, has an effect on the population. Mr. McCormick said, “The parameter of linear feature density is the sole factor that is being considered when assessing whether a particular population of grizzly bears will have long-term viability. Mr. Green replied, “It's the indicator that we've used.” 28254

Mr. McCormick asked, “If the project were to result in the reduction in population of a particular grizzly bear population unit, could that grizzly bear population unit still be considered to be viable in the long-term, even if it never recovers to pre-project population levels?” 28295

Mr. Green replied, “I'd like to use the Bulkley Valley grizzly bear population unit as an example because it's the one where we have the greatest amount of concern and that's stressed in the environmental assessment -- is that that population is at a cusp where either PTP or Northern Gateway was going to be the project that would push it over the linear density feature threshold that we thought was important. Now, PTP has gone ahead and cleared and we have a situation ... where the linear feature density is above a threshold and, clearly, Northern Gateway through its project will add incrementally to a disturbance to the bear habitat in that unit. As a result of that, we've ... committed to a number of measures. So the Bulkley Valley area is actually a focus of the linear feature plan and we're currently in discussions with the Ministry of the Environment on how linear feature density can be reduced.” 28295

Grizzly population densities

Table 9-81, Characteristics of Grizzly Bear Population Units Intersecting the RoW ([Exhibit B3-7](#)) shows GBPU populations in BC ranging from 140 – 473 and densities ranging from 11 per 1000 km² to 43 per 1000 km². All populations are deemed viable by the province. Ms. Bryden said that all of the GBPU's exceed the linear feature density threshold of 0.6 km/km², except Parsnip and the Bulkley Lakes. 28324

At Adobe page 99, is the statement that “Bears appear to prefer disturbed RoWs early in the spring season ... because of emergent vegetation, which helps to offset some of the habitat lost during construction.” This is followed by “Because of vegetation

management for the Project, berry producing shrubs will most likely not become established on the right-of-way.” Ms. Bryden said that the latter statement is no longer correct, the vegetation management plan has since changed. 28430

Table 9-63, Characterization of the Residual Effects of Change in Habitat Availability on Grizzly Bear, shows the duration of the effect as short, meaning less than three years. Mr. McCormick asked how this could be if the construction period itself is 42 months and if clearing of right-of-way takes place the year before construction. 28442

Mr. Doering displayed the updated project timeline, Table 1-1, Key Project Milestones, ([Exhibit B148-2](#)). Mr. Fiddler said, “Construction is done on a spread-by-spread basis. And a spread is described generically as a length of pipeline segment that can be completed in terms of being constructed, back-filled and initial cleanup completed within a particular season. ... The actual window of construction in any geographic region will be mitigated to something far less than three years” “Pump station construction will typically take a maximum of 12 months. The terminal and the tunnels are the two exceptions in terms of duration and they’ll be pushing out to the three year total period.” 28504

Plan to prepare a plan for decommissioning

Mr. McCormick noted that the duration of effect in Table 9-63 during decommissioning is “once only” and explored the decommissioning phase in a series of questions. NGP does not have a decommissioning plan at this time, more like “a plan to prepare a plan” in Mr. McCormick’s words. Decommissioning would be a separate application to the NEB.

Section 9.2.4 in [Exhibit B3-6](#) contains the statement that “In general, all decommissioning activities are assumed to have been completed within five years of the end of operations.” Mr. Fiddler cautioned that decommissioning of a pipeline shouldn’t be confused with abandonment, and it can preserve a pipeline for future opportunities of use. He described some of the steps required in decommissioning. 28544

Mr. McCormick asked some questions about “reversibility” of environmental effects beginning at 28597.

Examination by Ms. Jennifer Griffith for the Haisla Nation 28652

Modifying conditions of certificate

Ms. Griffith asked about the process to modify or waive conditions attached to a project certificate issued by the NEB. Would that be a public process? Mr. Anderson said he has no knowledge of that process but was sure it would have adequate consultation. 28654

Vegetation

Ms. Griffith asked many questions related to vegetation, effects of the project, reversibility and duration. Much of it was in the nature of one or two questions about different specific items in a number of different exhibits. This section does not lend itself to summarization, and is best followed directly in the transcript, beginning at 28666.

She was halted for the day when counsel for the Swan River First Nation called in.

Examination by Ms. Dominique Nouvet for the Swan River First Nation
28735

Ms. Nouvet said her questions would relate to impacts of the pipeline on the woodland caribou and, in particular, the threatened Little Smoky herd in Alberta whose range overlaps with the traditional territory of the Swan River First Nation. She referenced the federal government's Boreal Caribou Recovery Strategy ([Exhibit E6-2-2](#)). 28736

She sought to understand whether “the Proponent's approach to mitigation planning for caribou is based on the same understanding of Environment Canada about two matters: What caribou need to survive and recover and the current state of the Little Smoky herd.”

She confirmed that NGP was in agreement with the statement that, “Each boreal caribou local population contributes to the biodiversity, ecological functionality, and resilience of the species to environmental change, reducing the risk of species' extinction.”

Mr. Preston agreed that caribou need large tracts of undisturbed habitat for survival, they prefer mature or old growth forest, the Little Smoky herd estimate is 78 members. With respect to, “The recovery of all local boreal caribou populations is technically and biologically feasible,” Mr. Preston said, “We certainly agree with that statement.”

Mr. Anderson added, “The Panel would generally agree with almost everything that's in the recovery strategy, if not all that's in the recovery strategy.” 28770

With respect to a quote from Environment Canada, “...avoidance of habitat destruction should be seen as a top priority,” Mr. Anderson said, with respect to the Little Smoky herd, “Our original plan was ... to route the pipeline to the north outside of the boundaries of the herd range. But working with Alberta Environment and Sustainable Resource Development, they wanted us to parallel existing infrastructure ... through the top end -- the north end of the range through an area of low habitat potential.” 28782

Ms. Nouvet asked when did ESRD express the view that it would be preferable to use the existing Alliance Pipeline route rather than completely by-passing the Little Smoky herd range, and who made that decision. Mr. Anderson said, after checking, that it was Sept. 28, 2009. Mr. Langen expressed reluctance to disclose individuals' names, which was upheld by the Chairperson.

Mr. Anderson said, “The main reason for ESRD at the time wanting us to follow [the Alliance] route is because the previous route ... that went north would have involved disturbance of areas that had not been previously disturbed. ESRD felt that it would be less of an impact on the environment to parallel existing facilities”

Ms. Nouvet: “Is Northern Gateway willing to re-engage with ESRD and Environment Canada about that section of the route in light of the more recent information that we now have about what a terrible state that particular herd is in?” Mr. Anderson replied that NGP continues to engage with ESRD, but with respect to re-routing, they will definitely discuss that again. 28823

Northern Gateway's habitat restoration plan

Ms. Nouvet asked whether Northern Gateway has ... committed in writing that it would restore habitat in the Little Smoky Range at a ratio of 4:1. And would the restoration be based on the area of new disturbances or on the entire project development area that overlaps with the Little Smoky Range?" Mr. Green replied, "For the 25-metre right-of-way that's being created regardless of whether it's adjacent to the Alliance Pipeline or not, Northern Gateway will commit to a 4:1 ratio [of restoration of caribou habitat somewhere in the Little Smoky range]." 28838

Consultation in the restoration plan

Turning to the Linear Feature Management and Removal Plan ([Exhibit B46-36](#)), Ms. Nouvet asked why First Nations are not brought in right now, instead of at Phase 3. Mr. Anderson said, "We do think that we need to get a better understanding of the science and some of the management objectives that the Province and other regulators envision for this area. We do and will engage with First Nations as soon as we have some candidate ideas." 28854

Ms. Nouvet: "Can Northern Gateway commit to providing a consultation opportunity to Swan River before the priority area sub-plans are developed; ... even in draft? Mr. Anderson agreed. 28863

Mitigation measure 45

In Exhibit B3-6, mitigation measure 45 reads, "Avoid disturbance of identified key woodland caribou habitat..." Ms. Nouvet said, "I'm hoping that in the case of the Little Smoky herd it includes all of their range." Mr. Green said that it refers to "what Northern Gateway would commit to during the construction and operation of this project. It does not refer to disturbances by other users in the area." 28873

Ms. Nouvet's concern is with the caribou's critical activity periods. She said, "I'm looking for confirmation that ... the plan will be to avoid construction altogether in their range during the caribou's critical activity periods." Ms. Bryden said, "For the Little Smoky herd the whole length of the route would be considered to transect that key habitat for Little Smoky herd."

Returning to the mitigation measure, Ms. Nouvet said, "There's a statement where ... disturbance is unavoidable. I'm wondering in what types of circumstances it might be considered unavoidable that construction has to take place during critical activity periods for caribou." She asked if "unavoidable" could capture economics, "that it would be too expensive to avoid construction during certain times? I'm hoping that can be ruled out as something that's unavoidable." 28904

Mr. Anderson replied, "No, typically, ... when we use the word "unavoidable" it would be because there's another constricting environmental constraint, whether it be a watercourse crossing or that construction during another period would actually be more destructive to the environment than constructing within the window."