Day 32 – November 3 2012 – Prince George – Vol 100

International Reporting Inc. - Vol.100-SatNov03.12 - A3D0E9

Contents

Order of Appearances

Enbridge Northern Gateway Panel 3

Pipeline Operations, Emergency Preparedness & Response Panel

Mr. Kevin Underhill	Mr. Allan Baumgartner	Dr. Frank Bercha
Mr. Dale Burgess	Mr. Barry Callele	Mr. Ray Doering
Mr. Jeffrey Green	Dr. Matthew Horn	Mr. Walter Kresic
Mr. Greg Milne	Dr. Jack Ruitenbeek	Dr. Malcolm Stephenson
Dr. Elliott Taylor		

Examinations

Examination by Mr. Walter Thorne and Mr. Dennis Horwood for the Kitimat Valley Naturalists 24063
Examination by Mr. Andrew Hudson for the National Energy Board 24218
Examination by Member Hans Matthews of the Joint Review Panel 24407
Examination by Member Kenneth Bateman of the Joint Review Panel 24468
Examination by Chairperson Sheila Leggett of the Joint Review Panel 24652

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. Dennis Langen for Northern Gateway Pipelines 24742
Examination by Mr. Chris Tollefson for BC Nature and Nature Canada 24929

Examination by Mr. Walter Thorne and Mr. Dennis Horwood for the Kitimat Valley Naturalists 24063

Kitimat estuary delta: heart and lungs of the Kitimat watershed

Mr. Thorne said that Kitimat Valley Naturalists have questions relating to the Kitimat River estuary delta in the event of pipeline failure in the upper Kitimat drainage. 24063

Quoting from Volume 7B, Exhibit B3-20, Mr. Thorne cites, "Baseline vegetation in the Kitimat River estuary has not been assessed formally," and asks, "Given the importance of the estuary, why has this not been done?" Mr. Green said that they have not done assessments of potentially affected areas anywhere, only areas that will be definitely and directly affected by the pipeline, referred to as the project development are (PDA). "The reason for that goes to likelihood."

Mr. Green said they would be doing it, but he wouldn't call it a vegetation inventory, but it is part of the control point mapping. "But it's also now merging into the marine environment, a "rather interesting location for the project because we now start to see the interaction between the marine emergency response plans and the pipeline emergency response plans. On the marine side … the equivalent to a control point is what we refer to as a geographic response plan." 24083

Dr. Taylor said, "[We] explained in the Kitimat Valley Drainage Report … the concept of Pre-SCAT, which is Pre-Shoreline Cleanup Assessment Technique mapping, that is done to characterize sensitive areas and identify what locations are to be protected and how to best protect those locations."

Eelgrass protection and restoration

Mr. Horwood asked about mapping, protection, and restoration of eelgrass beds. Mr.

Green said they have only mapped eelgrass in proximity to the marine terminal, where they also have protection plans. Restoration is "a distinct possibility." 24094

Mr. Horwood noted that under "Mitigation Measures" in B3-20, "there's not a single reference as to how the estuary's unique habitats will be protected. We have trouble understanding why … the estuary alone has not been singled out and given special consideration." Mr. Green replied, "The omission is … important -- I agree with you, that's something we didn't speak to here." 24109

Soil contamination to persist two to ten years

Northern Gateway stated that "With mitigation and emergency response measures, soil contamination is expected to be restricted to a local area and persist for two to ten years." Mr. Green agreed with Mr. Horwood that, "in the event of a spill, … a part of the estuary could be contaminated." "There is a potential, given the right conditions, that oil could persist in the estuary for longer periods of time." Mr. Horwood said, "I don't wish to pursue this but I'm not very happy with that answer." Dr. Taylor explained some of the mitigation and recovery tactics that could be used. 24129

Mr. Thorne obtained the agreement of the witness panel that the Kitimat estuary is critical fish habitat, then asked "What plans does Northern Gateway have to be certain this valuable and irreplaceable fish habitat is protected from an upstream oil spill?" This discussion begins at paragraph 24162.

He said that "In the entirety of Section 7 called "Effects of Hydrocarbon Spills on the Biophysical Environment", the Kitimat River estuary … is scarcely mentioned." "Why," he asked, "and what plans do you have to respond to this complete lack of baseline evidence?" Mr. Green said he would not agree that they have ignored the estuary and described some commitments they have made. 24188

Examination by Mr. Andrew Hudson for the National Energy Board

24218

Sinking dilbit

Mr. Hudson said he has five or six areas to cover. The first is sinking dilbit, and he cites conflicting evidence from NGP with respect to whether and under what conditions dilbit will sink. "Will dilbit potentially sink based on weathering processes only independent of whether it binds to suspended sediment?" Dr. Horn replied, "It's not likely that the dilbit is going to sink … based on weathering alone, when one takes into context that this is also occurring with a response in mind. … That takes actually weeks to get to that stage of weathering." He cited some tests to support his opinion. But he did add that once the density of oil gets close to that of water, "and then you add any amount of suspended sediments, then you can start to get into a situation where the oil can sink." 24218

Smothering effect

Mr. Hudson asked, "The purpose of the EHHRA was to consider potential toxicological effects resulting from an oil spill but to what extent did it consider the potential smothering effects on benthic invertebrates and fish eggs in the sub-strait independent of

toxicological effects?" Dr. Horn said, "The results on average showed that the deposition over the entire reach was actually likely not of the quantity that would result in smothering. That's not to say that specific localized regions may not have an amount of oil that could potentially smother. 24251

Dr. Stephenson added to this topic later: "If you have a large spill to a small watercourse, the potential for those smothering kinds of concentrations is much higher." 24392

Mass balance of oil fate exceeds 100%

The rows in Table 7-13, Mass Balance of Oil Fate in Exhibit B80-3 add up to more than 100%. Mr. Hudson asked why. Dr. Horn explained that the columns excluding "Exits Last Grid" total 100%. The oil in "Exits Last Grid" is already accounted for primarily in the "Water Column" and to a lesser extent in the "Surface" column. 24256

Mr. Hudson also asked about the note to "Exits Last Grid" that says, "*Currents end before end of last grid, so mass remains in last grid at end of run." Dr. Horn explained that it is an artifact of an idiosyncracy in the model. More in the transcript. 24272

Recent and ongoing research regarding heavy oils in freshwater

Mr. Hudson asked, "Could you comment on any recent developments in research regarding the behaviour and cleanup of heavy oils -- in particular, dilbit -- in a freshwater environment?" Mr. Milne and Dr. Taylor each replied. 24285

Environment Canada had recommended "that the Proponent consider an ongoing research effort into the environmental behaviour and fate models for the hydrocarbon products to be shipped," and NGP had replied that it was prepared to "participate in a collaborative research effort." Mr. Hudson asked, "Could you comment on the extent to which Gateway would be prepared to lead and fund any such initiatives?" Mr. Milne replied. 24299

Slope monitoring and GEOPIGs

Mr. Hudson asked about the technology used to continuously monitor slope stability, and how NGP would decide which slopes need to be monitored. One of the tools is called a GEOPIG, run during the first year. Mr. Kresic said they obtain GPS co-ordinates at every weld when constructing the pipeline, then in the first year they run the GEOPIG and calibrate its findings with the GPS co-ords. This gives them a baseline for future runs of the GEOPIG 24313

He also asked about crack detection, the tools they use, what they are looking for, and what they do with the results. A key part of this, according to Mr. Kresic, is a "fitness for purpose (or service)" evaluation. 24349

Mr. Hudson asked questions about pipeline maintenance technicians. Mr. Burgess said their primary role is for emergency response. He asked about 40 new positions for pump station staff. "General site maintenance," according to Mr. Burgess. 24366

With respect to Route Revision V, which NGP expects to submit before the end of the year, Mr. Hudson listed a number of evidentiary filings and asked if NGP would undertake to provide revisions to this evidence when it files its Route V. Mr. Doering said that all those documents would be revised, and some others, in addition. 24381

Examination by Member Hans Matthews of the Joint Review Panel
24407

Removal of chemical concentrations in quiescent areas

Mr. Matthews asked if there will be chemical build-up in areas where quiet or minimum flow prevails, and he asked what methods are available to clean or minimize the effect if it doesn't flush out of the system. Mr. Burgess listed a number of bulk removal techniques, including skimming, sorbent booms, vacuum trucks or systems. Dr. Taylor spoke about clean-up, including removal of concentrated material from the shoreline or bottom, and said that you might consider flushing the system artificially. 24407

Mr. Burgess said they have used water treatment systems, including aeration. 24426

The Chairperson asked about the experience with treatment. Mr. Burgess mentioned the Cheecham terminal on their Athabasca system where they treated water from the holding ponds and met provincial guidelines for release before it was let off site. Mr. Milne cited an example with the Norman Wells spill, in which they developed a water treatment system for that site that was flown in by helicopter, put in place within a few days after the incident, and consisted of oil water separators, granular-activated carbon canisters and filtration processes that did enable us to get down to the regulatory guidelines and they were able to discharge the water from that site. 24453

Mr. Matthews asked about chemical additives that might be used. Mr. Underhill said they were not aware of any that could be placed in a riverine environment. 24436

Examination by Member Kenneth Bateman of the Joint Review Panel
24469

Framework for Pipeline Oil Spill Preparedness

Mr. Bateman asked a number of questions on the Framework for Pipeline Oil Spil Preparedness, Exhibit B158-2. Readers interested in the detail should go to the transcript, beginning at paragraph 24469

He asked about the titles and skill sets on the Oil Spill Response (OSR) Management Team. Mr. Milne's answer was vague. Mr. Bateman said, "I'm finding this too vague. Describe the skill set that would be embodied in this group."

He asked about the status of the Scientific Advisory Committee and was told by Mr. Milne that it is "preliminary." Referring to earlier questions by Mr. Hudson, and comments by NGP that it would not lead this process, he asked if he understood correctly. Mr. Milne said they would like to see this as a "broader initiative" led by a government agency.

These types of initiatives require a significant degree of funding. If there is not enough "traction at that level" would Northern Gateway go it alone, and assume all responsibility for funding? Mr. Milne replied, "I think you've pretty much described it. Northern Gateway is committed to funding any of the activities." 24505

Mr. Bateman asked at what point on the timeline will a decision be made to go it alone. Mr. Milne said that would depend on the particular issue.

The "broader initiative" as a condition of the project

"Is it Northern Gateway's position that a broader initiative, as you have described, be a condition of the project," Mr. Bateman asked. Mr. Underhill said, "It's difficult to look at the overall funding of such an initiative. But in terms of how it's actually funded, we would hope that there would be broader participation in certain initiatives. So in terms of conditions we'd look to the Panel. If such a condition was there with respect to this issue, we would be looking to honour that." 24515

General Oil Spill Response Plan

Mr. Bateman asked for a description of the General Oil Spill Response Plan (GOSRP). Mr. Milne explained, "[It] provides a description of some of the elements that will be consistent across any of the other response plans that are developed." "It will address … the structure of the incident command or unified command system." 24527

A lot of binders

Mr. Bateman: "What I envision when I hear this is a lot of binders with important information in them." "How do they all coordinate together? What do they roll into so that everybody knows who's in charge and what the roll-out is?" Mr. Milne: "These are all planning documents that are used in preparedness." He continued, describing some aspects of the incident command system. 24530

Public awareness program & evacuation potential

Mr. Bateman asked questions about the public awareness program noted in the blue line of the Framework document, and education and training for the public so in the event of an incident, they can assist. Mr. Underhill said work in advance of a spill is focussed on local government and with the larger community "in the form of newspaper ads." 24541

"Is there the potential for the need to evacuate communities," Mr. Bateman asked, then explored how much of a decision, management, logistical and funding role NGP would play or local government would be expected to play in that instance. 24575

Education level

Mr. Bateman referred to earlier testimony about jobs requiring a Grade 12 education. "Is it Northern Gateway's view that [able bodied and interested men and women in various communities who do not have Grade 12 education] simply could not qualify for the types of positions that you're envisioning? Or do you envision that they could be trained notwithstanding they don't have Grade 12?" Mr. Underhill had only one answer: "We feel that they could be trained." 24625

Examination by Chairperson Sheila Leggett of the Joint Review Panel 24652

The Chairperson had one question following on from Mr. Bateman, "When you're talking about the internal OSR review and assessment and the third-party assessment, I'd like to understand how that can be going on at the same time as the development of all the response plans are going on?" Mr. Milne began his reply, "What we envisioned there is, really, bringing in the both internally and having a third-party that is overseeing and monitoring, if you will, the development of these plans." The Chairperson explored other aspects of the third party organization or company. 24652

Net environmental benefit approach

The Chairperson asked Mr. Underhill, with respect to discussion that happened a couple of days ago on a Net Environmental Benefit Analysis that's in the General Oil Spill Response Plan, whether Enbridge has put this type of planning into effect already in the organization. Mr. Underhill replied "Yes. [But] we haven't utilized it to the extent that we are currently in Marshall." 24681

She asked Mr. Underhill to describe the outcomes that resulted. He said, "We found a very beneficial component … was to have the scientific support group [help] us in that analysis when we looked at specific cleanup techniques and were making decisions of which ones to employ and which ones not to, given the environmental sensitivities of specific areas along the riverine environment." With respect to NGP, "the most significant learning with respect to the net environmental benefit analysis is to ensure that you've got that expertise at the table." 24693

The Chairperson confirmed that "the net benefit environmental analysis would be built into, and a component of, one of your oil spill response plans? And it would be specific … to the Northern Gateway Project?" Mr Underhill said, "Yes, it would form part of the general oil spill response plan. 24701

Fibre-optic sonar sensing system

The Chairperson is interested in a fibre-optic sonar system that is able to detect down to 10 metre resolution. It is used in Turkey for seismic sensing, and in other parts of the world to detect people stealing oil from a pipeline. It would report to the control centre, and allow crews to zero in quickly and accurately on anomalous events. 24706

Introduction of Enbridge Northern Gateway Pipelines Panel 4 by Mr. Dennis Langen 24742

Mr. Langen introduced the members of the Pipeline and Terminal Environmental and Socio-Economic Assessment Panel, asked that they be affirmed or sworn in, then named the witnesses, their titles, and their specific areas of expertise.

Examination by Mr. Chris Tollefson for BC Nature and Nature Canada 24929

Caribou

Mr. Tollefson displayed Figure 9.5 from Exhibit B3-7, caribou herd ranges crossed by the Northern Gateway right-of-way. He asked, "Would you agree that the proposed pipeline routing here depicted traverses key range and habitat of at least five distinct herds or populations of woodland caribou including -- moving from east to west -- Little Smoky, Narrow Way, Quintet, Heart Ranges, and then Telkwa?" Mr. Anderson agreed. 24952

"Would you agree that the pipeline also traverses the range and habitat of an additional caribou herd that COSEWIC has recently recognized as distinct woodland caribou population but which is not specifically addressed or mentioned in the ESA and that would be the Bearhole-Redwillow population which resides on the B.C. side of the Alberta/B.C. border?" Mr. Anderson: "I understand that that was included as part of the Narrow Way herd."

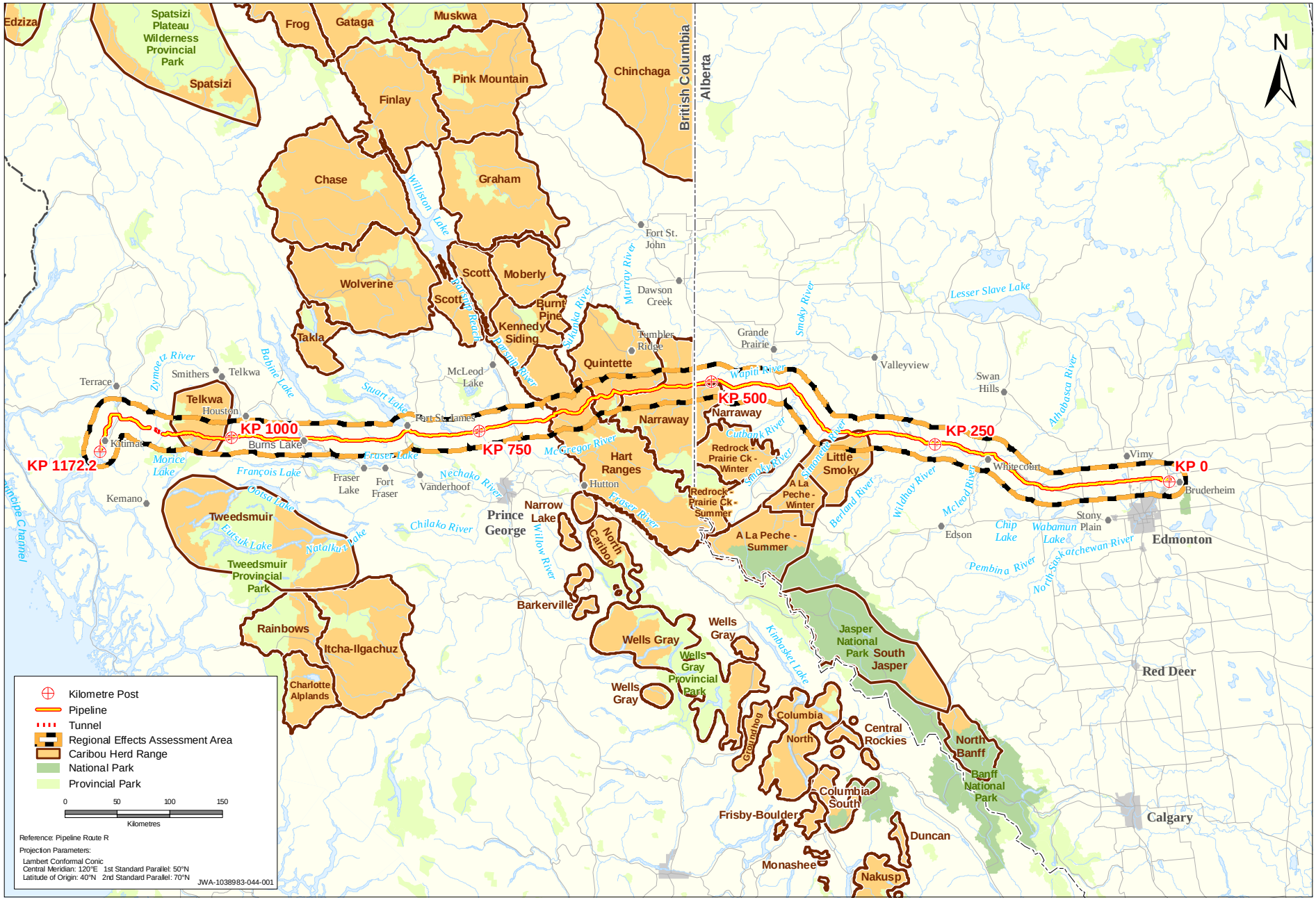
Mr. Tollefson said that several of the herds are facing serious threats to their ultimate viability as distinct populations, including Little Smoky, Narrow Way, Heart Ranges and Bearhole-Redwillow. "Would you agree with that?" Mr. Anderson agreed.

Boreal Caribou Recovery Strategy

Mr. Tollefson then noted that on October 5, the federal government released the Boreal Caribou Recovery Strategy (Exhibit E6-2-2). Canada's Environment Minister, Peter Kent, said, "As an iconic species for Canadians from coast to coast to coast, the plan sets out some ambitious targets which include protections of 65 percent of undisturbed designated habitat in the range of populations where that level of undisturbed habitat currently exists, and in cases where there is more than 35 percent of a population's critical habitat in its current range that is disturbed a commitment to pursue restoration efforts that would bring the undisturbed habitat up to 65 percent." 24965

Mr. Tollefson asked how is the proponent's appreciation and concern for the important iconic status of this species, reflected in the environmental site assessment (ESA)? "And if you could give specific illustrations that would be helpful." Mr. Anderson replied that they tried "to minimize disturbance to the herds by paralleling existing facilities whenever possible and by routing around core habitat areas." 24986

Mr. Green said the Environmental Assessment was filed in 2010. Mr. Tollefson said the Recovery Strategy has been 10 years in the making. "At the same time, we are awaiting the Southern Mountain Recovery Strategy. Is the proponent prepared … to make those kind of adjustments as it analyzes the implications of this Boreal Recovery Strategy and as and when the Southern Mountain Recovery Strategy is released?" Mr. Anderson said, "It's certainly going to be a big part of our planning going forward, yes." 25004



CONTRACTOR: Jacques Whitford AXYS Ltd.

PREPARED BY: gem

PREPARED FOR: ENBRIDGE NORTHERN GATEWAY PIPELINES

ENBRIDGE NORTHERN GATEWAY PROJECT

Caribou Herd Ranges in Alberta and British Columbia

FIGURE NUMBER:	DATE:
9-5	20100407
SCALE: 1:5,000,000	AUTHOR: JP2 / APPROVED BY: DC
PROJECTION: LCC	DATUM: NAD 83

Z:\Clients\Enbridge\Gateway\Figures\MXD\JWA-CAL-044_Wildlife_Caribou_Herd_Ranges\JWA-1038983-044-001.mxd

Northern Gateway: Framework for Pipeline Oil Spill Preparedness

Project Milestone

Plan Submission

ENBRIDGE NORTHERN GATEWAY PIPELINES

ERP Elements

OSR Management Team & Personnel

- Assemble OSR Management Team
- OSR Management Team Coordinates Ongoing Work
- Northern Gateway Spill Management Team
- ERP Program Design
- Enbridge Emergency Response Team Integration
- Response Team Training & Exercises
- Ongoing OSR Training & Exercises, Ongoing Field-testing of TWPs

Resources

Tier I

- Development of Tier I Contractor Agreements
- OSR Equipment Maintenance, Repair, and Inventory Control
- Class III Cost Estimate
- OSR Equipment Procurement

Tiers II and III

- Equipment and Cache Review Tiers 1-3
- OSR Training & Exercises
- Ongoing OSR Training & Exercises, Ongoing Field-testing of TWPs (Tiers 1-3)
- Capacity Review Tier 2 and 3 Assessment and Agreements
- Development of Tier 2 & 3 Agreements

Plan Development

- Incorporate Conditions of Approval
- General Oil Spill Response Plan (GOSRP) Review and Update
- Access Management and Logistics Planning, Coordination with Construction and Operations
- Tactical Watercourse Plans (TWPs) Development
- Pipeline Oil Spill Response Plan (POSRP) and Sub-Plans
- Review & Update

Scientific Advisory Committee

- Framework Development
- Initiation
- Scope Development
- Research Implementation

Consultation and Local Input

- Liaison with Regulators, Emergency Responders, Appropriate Organizations, First Nations, and Members of the Public Adjacent to RoW
- Public Awareness Program Development
- Program Implementation
- Ongoing Public Awareness Program

Assessment

- Internal OSR Review & Assessment
- Third Party Selection
- Third Party Readiness Assessment
- Third Party OSR Review

Project Phase

- JRP Hearings & Review Process
- Cost Estimation
- **Detailed Design,** Construction, Detailed Planning, Commissioning (subject to regulatory approval)
- Pipeline Operations

Decision by JRP

Project approval and certificate issued by NEB

Ready for line fill

2012 2013 2014 2015 2016 2017 2018

Dates are subject to refinement and assume a mid 2018 operational date

Rev 1. Oct 30 2012