**Enbridge Northern Gateway Project**
**JRP Hearing Notes**

# Day 26 – October 19 2012 – Prince George

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## Order of Appearances

### Enbridge Northern Gateway Pipelines Panel #3

Pipeline Operations, Emergency Preparedness & Response Panel

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

Examinations

Barry Robinson for the Coalition (continued) 16388
Rangi Jeerakathil for Enoch, Ermineskin, and Samson Cree Nations 17046

## Examination by Barry Robinson for the Coalition (continued) 16388

(Living Oceans Society, Raincoast Conservation Foundation and ForestEthics Advocacy)

### Calculating return periods

Mr. Robinson confirmed with Mr. Kresic that return periods as calculated in Table 3-2 in Exhibit B3-20 are just a function of length of pipeline and number of incidents, and are "just arithmetic" They are based on North American incident data. 16401

### Integrity management

Mr. Robinson began his questions about integrity management by putting up first, Enbridge's Environment, Health and Safety Policy (page 22 of Exhibit B21-2), which Mr. Kresic described as "our corporate overarching policy." 16406

He followed that with the System Integrity section in the application (Section 12 at page 113 of Exhibit B1-5). Mr. Kresic described this as "a mission critical activity within our company to assure leaks do not happen." 16423

Mr. Kresic explained some the internal processes related to this goal, and mentions an NEB reporting initiative that all regulated pipeline operators will begin in 2013, in addition to the leak reports that they currently file with the NEB. He said that Enbridge had 0.5 leaks per 1000 km in 2011 compared to the industry's 7.43. 16458

In the US, pipeline operators report to PHMSA, the Pipeline Hazardous Materials and Safety Administration. Mr. Kresic said that Enbridge had 0.005 leaks per billion barrel miles, compared to the industry's 0.021. Over the period 2002 to 2011, Enbridge is at 10.5 leaks per billion barrel miles compared to the industry's 10.7, and that includes the Marshall spill.

Mr. Kresic produced a volume-based metric in Canada, from 2002 to 2009. Enbridge spilled an average of 306 barrels per 1000 km of pipeline compared to the industry's 355.

**Regulator reports on series of spills**

Mr. Robinson referred to a 1999 spill near Regina and the Transportation Safety Board (TSB) report (Exhibit D66-4-2) as a basis for discussion about inline inspections. The TSB had noted that Enbridge had had limited success with such inspections. Mr. Kresic described some of the evolution of inline inspection tools, and with this specific pipeline, that the latest tools had not been run through it. 16488

Mr. Robinson next referred to a 2001 spill near Hardisty. The TSB report (Exhibit D66-4-4) found longitudinal seam crack in that pipeline. It also had not been inspected with recent tools prior to failure, though at the time of this leak, a tool was actually in the pipe, doing an inspection. The TSB had noted that the earliest longitudinal seam failure was in 1989. One of the commitments Enbridge made following the Hardisty incident was to participate in research projects regarding this type of cracking. Mr. Robinson wondered why it took from 1989 to 2001 to decide to participate in research. Mr. Kresic said they had participated in research prior to that period and describes more about the evolution and application of inline inspections. 16533

Mr. Robinson brought up another TSB report (Exhibit D66-4-5), this time near Binbrook, Ontario in 2001 in which there was a communication failure between a logic controller and a terminal unit on the pipeline, and a valve failure, and a programming error which meant that an alarm from the material balance system (MBS) was not transmitted to the SCADA system. 16552

All three of these failures were described as rare by the witness panel. Mr. Robinson asked, "How rare is it when all three of those occurred at one time?" Mr. Callele replied,

"Very rare." 16650

Mr. Robinson brought up two US reports on Enbridge Pipelines:

- Vector Pipeline - procedures regarding timeframe to remediate deficiencies. (PHMSA, D66-4-11);
- Line 6B – of 140 anomalies requiring action in 2007, 114 remained at the time of the Marshall spill in 2010; of 250 inline inspection anomalies found in 2009, 215 remained at the time of the spill; 5 internal corrosion monitors had been disconnected in 2006 and 2007 and had not been reconnected; (PHMSA, D66-4-33)

**NTSB report on the Marshall spill**

Mr. Robinson put up the NTSB report on the Marshall spill (Exhibit, B92-3). 16708

He reviewed an important finding of the NTSB: 16751

> "The rupture and prolonged release were made possible by pervasive organizational failures at Enbridge Incorporated (Enbridge) that included the following: deficient integrity management procedures, which allowed well-documented crack defects in corroded areas to propagate until the pipeline failed."

Mr. Robinson also singled out this finding: "the inadequacy of Enbridge's integrity management program to accurately assess and remediate crack defects."

Mr. Kresic attempted to explain how Enbridge, despite being warned, still had "pervasive organizational failures and deficient integrity management procedures?" 16753

**MBS, SCADA, and the 10 minute alarm**

Mr. Robinson determined that the MBS and SCADA systems run on separate servers, within a data centre at the Edmonton control centre. There is also a backup control centre in a separate building.

He also determined that when an alarm goes off that triggers the 10 minute shutdown window, that the shutdown is automatic, but must be started by an operator.

**Norman Wells spill**

Mr. Underhill said that the Norman Wells spill of May 9, 2011 released 1628 barrels of oil. Mr. Callele confirmed that the spill was not detected by MBS or SCADA though both systems were installed and functioning because the leak rate was below the threshold of detectability by any CPM (computational pipeline monitoring) system. Mr. Robinson characterised the terrain as "flat and frozen" – "about the best you could ask for in access", though Mr. Burgess said that "there are a number of significant slopes on the pipeline." 16798

**Access restrictions**

Mr. Robinson asked how helicopters will land in deep snow, since pads and landing sites won't be plowed. Mr. Underhill said it was his understanding that helicopters can land in snow. 16835

Asked about access restrictions, such as forestry roads that might be open only for the duration of forestry activities, or areas that are inaccessible because of flooding, Mr. Underhill said they'd be utilizing alternate means, "such as helicopters, [and] would be lifting in equipment that was prepackaged and ready for deployment." 16879

**Oil deposition in rivers**

Returning to the Marshall incident again, Mr. Robinson asked for confirmation that 15% - 20% of the volume that reached Talmadge Creek and the Kalamazoo River did submerge; and that two approaches to recover this oil is agitation to capture oil that floats to the surface, and dredging; and that submerged oil is still being recovered. Mr. Underhill confirmed these details. 16892

**Locating and recovering oil under ice**

Mr. Robinson is told that they need to auger through ice to locate oil. Mr. Baumgartner described the steps involved in the Hardisty spill where the pipeline and the spilled oil were under "abut two feet of ice." 16935

Mr. Burgess described ice slotting: "slots of ice are cut out of the river to expose the flowing water underneath and then booms and other measures can be deployed to capture oil as it moves across the slot." Mr. Milne and others provided more information about oil under ice. 16948

**Closing comments**

At the end of his questioning, Mr. Robinson in effect gives NGP an opportunity to talk a bit about continuous improvement. He had asked "To reassure the Canadian public, would Enbridge, as a condition of approval, commit to stopping the construction of or shutting down the operation of Northern Gateway pipeline, if in any given calendar year the spill frequency should exceed 0.5 spills per thousand kilometres or the spill amount should exceed 206 barrels per 1,000 kilometres?"

Mr. Kresic said no to that question, but did say that "industry does not have a benchmark for pipeline companies to compare to. … If you look around the world for what defines a safe pipeline, there's maybe two countries in the world that have any sort of a national code for pipeline safety, the U.K. and the Netherlands. … North America doesn't have that." 17016

Mr. Robinson ended with, "Can Enbridge give this Panel any guarantee that the Northern Gateway pipeline will never leak?" to which Mr. Kresic replied, "We can't guarantee that but we also know it's not inevitable."

## Examination by Rangi Jeerakathil for Enoch, Ermineskin, and Samson Cree Nations 17046

**Return periods, again**

Mr. Jeerakathil asked if the spill return periods given Table 3-2 in Exhibit B3-20 should all be multiplied by three given the statement by NGP in Exhibit B45-25, that spill

frequency should be decreased by a factor of 3. Dr. Bercha said, “Yes, sir.” The lengthy discussion which follows about return periods and the three Tables 3-1, 3-2 & 3-3 recapped other similar discussions during these hearings and the first item at the top of today’s notes. It begins at 17059

**Spills by year on Enbridge pipelines**

As an aid to questioning, Mr. Jeerakathil used a table which showing spills from Enbridge pipelines by year, from “Out on the Tar Sands Mainline: Mapping Enbridge’s Web of Pipelines,” a Polaris Institute report. He wanted the witnesses to confirm the data, which was obtained from reports on Enbridge’s website. 17234

Mr. Langen objected to the request for confirmation of the data, or for the reports from Enbridge’s website to be filed. Mr. Langen said, “He’s attempting to … get confirmation of the numbers that are in this table on the record. … If he wants to get these numbers on the record, he can do so through his own witnesses and I think it’s unfair…” 17270

Mr. Callele pointed out that the Polaris report is for all Enbridge pipelines, liquids and gas, but that they had provided the same information in an IR to the Province of BC (Exhibit B47-30) for the liquids pipelines only.

**Spill Statistics for Enbridge's Liquids Pipeline System (1998-2010)**

| Year | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total reportable spills** [1] | 80 | 89 | 80 | 59 | 61 | 70 | 64 | 58 | 46 | 27 | 43 | 54 | 39 |
| Total volume ($m^3$) | 5424.8 | 1329.1 | 426.3 | 2186.9 | 852.6 | 1562.0 | 495.1 | 1013.9 | 2334.1 | 4081.5 | 1189.3 | 4572.8 | 1563.0 |
| **Total reportable spills – watercourse** | 2[5,6] | 0 | 0 | 0 | 0 | 1[4] | 0 | 1[3] | 0 | 0 | 0 | 0 | 1[2] |
| Total volume ($m^3$) | 3102.8 | 0.0 | 0.0 | 0.0 | 0.0 | 17.0 | 0.0 | 715.4 | 0.0 | 0.0 | 0.0 | 0.0 | 60.0 |
| **Total reportable spills – non watercourse** | 78 | 89 | 80 | 59 | 61 | 69 | 64 | 57 | 46 | 27 | 43 | 54 | 38 |
| Total volume ($m^3$) | 2322.0 | 1329.1 | 426.3 | 2186.9 | 852.6 | 1545.0 | 495.1 | 298.5 | 2334.1 | 4081.5 | 1189.3 | 4572.8 | 1503.0 |

**Operations and maintenance costs**

Mr. Jeerakathil moved on to operations and maintenance and associated costs. 17308.

He asked they could explain how they will determine the amount to be spent on operations and maintenance, or if they could refer to another pipeline. They cannot. He followed up with “Is there a limit … in a particular year … as a result of your tolling agreement? Mr. Kresic says, “There are no limits in terms of cost to keeping our pipeline from failing.” 17321

**Other liquids pipelines into BC from Alberta**

Mr. Jeerakathil asked about spill data on other liquids pipelines in mountainous terrain in BC - Kinder Morgan’s Trans Mountain and Pembina’s Peace Pipeline are identified – but the Pembina system is not regulated by the NEB, so obtaining that data is more challenging. Dr. Bercha said he had looked for that answer and there were no ruptures of NEB regulated pipelines in mountainous regions of BC. 17361

The hearing will continue on October 29 at the Ramada Hotel in Prince George, beginning at 8:30 in the morning, continuing with the questions of this panel.

The next intervenors to question this panel will be the Fort St. James Sustainability Group, Mr. Cullen, and the Haisla Nation.