

October 4, 2011

E-FILE

**Attention: Ms. Anne-Marie Erickson  
Secretary to the Joint Review Panel  
Enbridge Northern Gateway Project**

National Energy Board  
444 Seventh Avenue SW  
Calgary, AB T2P 0X8

Dear Ms. Erickson,

**Re: Northern Gateway Pipelines Application to the National Energy Board  
Enbridge Northern Gateway Project  
OH-4-2011  
NEB File No: OF-Fac-Oil-N304-2010-01 01  
Northern Gateway Request for Confidentiality in JRP IR No. 3.1(e) & (f) and 3.9(b)**

Further to our letter of October 4 regarding Northern Gateway Request for keeping its *Pipe Specification EES 102 Submerged-Arc Welded Steel Pipe (Supplement to CSA Z245.1 07) Revision 1.0, March 4, 2010* confidential, we note that in response to JRP Information Request 3.9(b):

**Request:** Please provide a detailed description of Northern Gateway's Quality Assurance and Control Program which describes how Northern Gateway will verify and ensure compliance including frequency of inspections, to specifications, codes, and standards. As part of the response include copies of all related:

- a) Manuals;
- b) Pipe and component specifications;
- c) Inspection plans which cover the lifecycle from design, material manufacture, receipt, transportation, installation;
- d) Inspector competency requirements; and
- e) Documentation requirements.

Enbridge provided the attached highlighted response indicating that the findings of the INGAA Foundation 2009 White Paper were incorporated into the most recent revision of Enbridge's pipe specification.

However, as is pointed out in the attached highlighted excerpt from June 2010 Plains Justice Report *Use of Substandard Steel by the U.S. Pipeline Industry 2007 to 2009*, the INGAA White Paper did not go nearly far enough in identifying the root cause of defective API 5L X70 Standard pipe, the same material proposed for the Northern Gateway Pipeline, and did not recommend comprehensive inspections of expansion anomalies even though Kinder Morgan ultimately removed 7,100 feet of defective pipe due to "diameter variability" and Boardwalk Pipeline Partners removed 305 joints out of a total of 550 expansion anomalies.<sup>1</sup>

<sup>1</sup> *Use of Substandard Steel by the U.S. Pipeline Industry 2007 to 2009, Plains Justice, 2010, pp.3-10.*

It should be noted that the above referenced report summarizes 3,710 pages of information released by the Pipeline Hazardous Materials Safety Administration in response to a Freedom of Information Act request submitted by a number of groups in September 2009.

It appears that Enbridge's request to file its pipe specification confidentially is more of an attempt to prevent the honest debate on defective pipeline materials and failures occurring in the US from spilling over into the Canadian arena, than it is to protect commercial and technical information which would compromise Enbridge's competitive interests.

The above referenced report actively encourages greater transparency and public debate over pipeline safety standards, something which a JRP's acquiescence in granting a confidentiality order to Enbridge would further limit. All parties would do well to contemplate the following quotation from page 1, substituting the initials NEB for PHMSA:

“Public confidence in pipeline safety will only be increased by greater regulatory transparency, increased opportunities for public participation, and a demonstration that PHMSA will respond aggressively to the increasing need to update and improve pipeline safety standards.”<sup>2</sup>

Yours very truly,  
C.J. PETER ASSOCIATES ENGINEERING

Chris Peter, P.Eng. LEED® AP  
cp/  
Attachments.

cc. Kenneth MacDonald VP, Law and Regulatory Affairs, Northern Gateway Pipelines Inc.  
cc. Abby Dorval, Manager, Regulatory Affairs, Northern Gateway Pipelines Inc.  
cc. Richard Neufeld, Q.C. Barrister & Solicitor, Fraser Milner Casgrain.  
cc. The Federal Government Participants  
cc. The Haisla Nation  
cc. Josette Wier

<sup>2</sup> *Use of Substandard Steel by the U.S. Pipeline Industry 2007 to 2009, Plains Justice, 2010, p.1.*

- (f) Enbridge's Design Standards listed in reference iv) have previously been filed confidentially with the Board. Please see Attachment JRP IR 3.1 f) that provides a list of the Design Standards and the corresponding dates on which they were provided to the Board. The submission of Enbridge's Specifications for Facility Construction is subject to a separately filed request to file this information confidentially with the JRP.

Northern Gateway seeks to file Enbridge's "Specifications for Facility Construction FCS01 through FCS20" (the "Facility Construction Specifications") confidentially. The Facility Construction Specifications contain both commercial and technical information and are original documents that were developed by Enbridge subject matter experts. As such, the Facility Construction Specifications are proprietary in nature and are not intended for public distribution. The circulation of the Facility Construction Specifications has consistently been controlled by Enbridge; they are only provided to construction contractors, and only after confidentiality is assured through agreement.

**JRP IR 3.9(b)**

In JRP IR 3.9(b), the JRP requested Northern Gateway to:

Please provide a detailed description of Northern Gateway's Quality Assurance and Control Program which describes how Northern Gateway will verify and ensure compliance including frequency of inspections, to specifications, codes, and standards. As part of the response include copies of all related: ...

b) Pipe and component specifications; ...

Northern Gateway has provided the following response:

Enbridge was part of the Industry group assembled under the auspices of the INGAA Foundation in 2009 to respond to PHMSA Advisory Bulletin ADB-09-01 "Potential Low and Variable Yield and Tensile Strength and Chemical Composition Properties in High Strength Line Pipe". This study group released a White Paper: "Identification of Pipe with Low and Variable Mechanical Properties in High Strength, Low Alloy Steels" in September 2009. A copy of this paper is included as Attachment JRP IR 3.9 b). The findings of this study group were incorporated in the most recent revision of Enbridge's pipe specification: EES102-(2010), which supplements CSA Z245.1 07. The submission of this specification is subject to a separately filed request to file this information confidentially with the JRP. ...

Northern Gateway seeks to file Enbridge's "Pipe Specification EES 102 Submerged-Arc-Welded Steel Pipe (Supp to CSA Z245.1-07) Revision 1.0, March 4, 2010", (the "Pipe Specification") confidentially. The Pipe Specification contains both commercial and technical information that was recently reviewed and updated by an external consultant retained by Enbridge, a recognized expert in materials, design, quality, manufacturing and metal industries. As such, the Pipe Specification is proprietary in nature and is not intended for public distribution. Enbridge and Northern Gateway have consistently treated this information as confidential information.

Northern Gateway submits that the need to prevent disclosure of the Design Report, the Facility Construction Specifications, and the Pipe Specification (collectively the "Confidential Information") outweighs the public interest in disclosure of orders and proceedings of the JRP.

problem was identified only through high resolution caliper testing. Ultimately, PHMSA and the industry concluded that this problem was of sufficient gravity to require the removal and replacement of hundreds of pipe joints.

Unfortunately, it does not appear that PHMSA has yet conducted a comprehensive root-cause analysis of this problem, given that it provided no such analysis in response to the FOIA Request. It also appears that PHMSA may not have conducted a comprehensive study of the possible flow of defective steel pipe from steel and pipe mills noted herein to new natural gas and hazardous liquid pipelines constructed in the U.S. from 2007 to 2009. Instead it appears that PHMSA limited its investigation to only Kinder Morgan and Boardwalk.

## INDUSTRY TRADE ASSOCIATION RESPONSE

PHMSA's first formal action related to the defective pipe steel problem was to issue the Advisory Bulletin.<sup>62</sup> In response, the industry convened a meeting on or about June 11, 2009, to which PHMSA was not invited.<sup>63</sup> Apparently, one product of this meeting was a September 2009 White Paper by the Interstate Natural Gas Association of America Foundation (INGAA Foundation) entitled, "Identification of Pipe with Low and Variable Mechanical Properties in High Strength, Low Alloy Steels" (INGAA White Paper). By way of background to this issue, the INGAA White Paper states the following:

During 2007 and 2008 there was a significant increase in new pipeline construction in the United States. This construction boom put almost unprecedented demands on both pipe and other material manufacturers and pipeline constructors. To meet the demands for high yield line pipe, both traditional and newer pipe mills, utilizing plate and coil from both established and nontraditional steel suppliers, were used. During post-commissioning test (field hydrostatic test) inspection of some of these lines, a small number of pipe joints were detected that had expanded well beyond the dimensional tolerance limits of the pipe manufacturing specification, API Specification 5L. In most cases, the point at which this expansion occurred has not been definitively determined. As the investigation of this phenomenon progressed, it became apparent that it was not limited to one pipe mill, one steel supplier, or one manufacturing process. Through experience of a limited number of operators, it appeared that this issue was a rarity, affecting an extremely small percentage of pipe joints produced. However because the phenomenon could not be isolated or traced to a single source, PHMSA issued [the] Advisory Bulletin.<sup>64</sup>

Thus, due to a boom in pipeline construction, the industry admits that it acquired pipe from "newer," and presumably less experienced pipe mills, and that some pipe mills acquired steel from "nontraditional" steel mills, which could be less familiar with the exacting quality control standards that regulate the construction of pipelines in the United States. It is reasonable to believe that unprecedented demands for high-strength steel pipe and high commodity costs increased the risk of production of substandard pipe in 2007 and 2008.

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<sup>62</sup> PHMSA Advisory Bulletin ABD-09-01, *Potential Low and Variable Yield and Tensile Strength and Chemical Composition Properties in High Strength Line Pipe*, 74 Fed. Reg. 23930, May 21, 2009. PHMSA also conducted a workshop on pipeline construction issues on April 23, 2009, which addressed a variety of pipeline construction failings.

<sup>63</sup> Emails, P. Lidiak, API, to J. Wiese, PHMSA, May 21, 2009.

<sup>64</sup> INGAA White Paper at 1.

Rather than seek or provide greater clarity about the cause and sources of the pipe joints that “expanded well beyond the dimensional limits of the pipe manufacturing specification, API Specification 5L,” the industry merely stated that the “point” of expansion (presumably this means time and cause of expansion) had not been “definitively determined.” It also stated that the expansions were not limited to one pipe mill, one steel mill, or one manufacturing process, thereby implying that problems linked to only a single supplier should be of concern (which makes no logical sense). It did not support its statements with any data. It also stated that industry operators believe that the quality control problems were a “rarity, affecting an extremely small percentage of pipe joints produced,” but failed to reference or provide any data supporting this statement or discuss the risks created by small amounts of defective pipe. After all, it only takes one bad pipe joint to create an environmental and economic disaster. In short, the INGAA White Paper ignored any detailed discussion of the root causes of the substandard pipe and offered only unfounded generalizations about the problem rather than solid explanations.

The industry attempted to justify a limited response to this problem by discussing historical pipeline failures occurring prior to the events that precipitated the Advisory Bulletin.<sup>65</sup> Historical data is not relevant when current evidence suggests new types of industry failings in “unprecedented” market conditions. Historical data does not justify a lack of robust response by PHMSA or the industry to specifically identified problems.

Finally, the INGAA White Paper contains two flow charts intended to guide an operator of an existing pipeline in its determination of whether it has a “potential issue with pipe quality and if so, what actions should be taken to address those issues.”<sup>66</sup> Figure 1 indicates that existing pipelines intended to operate at an 80% design factor are subject to the review included in process B1.<sup>67</sup> Figure 2 and its accompanying text describe the B1 process as being:

- 1) a determination of whether there is a known history of low mechanical properties or excessive expansion found during normal operations;<sup>68</sup>
- 2) if such history exists, then a company should conduct an in-line inspection (ILI) during its next assessment; and
- 3) if such investigation shows expansions greater than “X%” amount (X% is not specifically defined by the INGAA White Paper, which states only that it may be about 1%) then the company must “evaluate and mitigate” the expansions, apparently within one year of the analysis, however the industry has not identified what “evaluate and mitigate” means, when the one-year period tolls, or what actions might be required based on differing degrees of pipe failings.<sup>69</sup>

Thus, it appears that the industry recommends that operators of existing pipelines, including pipelines constructed between 2007 and 2009, conduct an inspection for expansion anomalies only if their “normal” review of pipe data or information discovered during normal operations indicates that a threat of expanded pipes exists. However, the INGAA White Paper makes no recommendations about the type of

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<sup>65</sup> INGAA White Paper at 2.

<sup>66</sup> Id. at 3.

<sup>67</sup> Id.

<sup>68</sup> Id. The INGAA White Paper describes this history as, “Regardless of the preceding steps, if the company, through its normal review of the pipe data, such as is conducted during pipe production, and any other operational data or field observations, such as during tie-ins, installing taps, making coating repairs or performing pipe replacements, has made a determination that the threat of expanded pipe exists, then it must look further for such deformation during the next in-line inspection of the pipeline. If there is no evidence of low strength or excessively expanded pipe, no further action is required. Examples of such evidence include coating flaws caused by pipe strain and improper tie-in of a repair due to strain. This step does not contemplate extraordinary evaluations or inspections, but rather relies on those normally conducted as operations and maintenance activities.”

<sup>69</sup> Id. at 6-9.

in-line inspection required, and it specifically states, “This step does not contemplate extraordinary evaluations or inspections, but rather relies on those normally conducted as operations and maintenance activities.”<sup>70</sup>

The INGAA Foundation’s recommendation is essentially to allow operators of pipelines constructed between 2007 and 2009 to determine by and for themselves whether or not they need to conduct high resolution deformation testing and how to redress any problems found. Its response provides no assurance of any systematic investigation of or response to the defective steel problem. Thus, it appears that the industry makes no recommendation that such operators do any initial investigation beyond normal operations and also does not recommend particular responses.

## RECOMMENDED PHMSA ACTIONS

Since this report is based only on documents released pursuant to the FOIA Request, it is not possible to fully know about all of the actions taken by PHMSA in response to the defective steel problem. With this caveat in mind, we recommend that PHMSA take the following actions, if it has not already done so:

- Investigate and provide a public report on the use of defective steel in U.S. hazardous liquid and natural gas pipelines that:
  - identifies the number of defective pipe joints discovered;
  - provides a description of each defective pipe joint;
  - provides any test results performed on each pipe joint;
  - identifies the pipe and steel mill sources for each defective joint;
  - identifies the root cause or causes of the defective pipe joints; and
  - presents recommended improvements in safety regulations, safety enforcement, pipe steel standards, pipeline testing, quality control surveillance, and other appropriate responses to this problem.
- Order all operators of natural gas and hazardous liquids pipelines constructed between 2007 and 2009 to conduct high-resolution in-line deformation caliper testing and provide the results of such inspections to the public on the PHMSA website;
- Order all operators of natural gas and hazardous liquids pipelines constructed between 2007 and 2009 using API 5L X70 and higher grades of pipe to trace pipe from pipe and steel mills with a history of supplying defective API 5L X70 and higher pipe to all U.S. pipelines that contain such pipe, regardless of pipe diameter, and provide a report to PHMSA and the public describing the use of such pipe in U.S. pipelines.
- Post all hydrotest results provided by pipeline operators on the PHMSA website; and
- Reduce the operating pressure of newly conducted hazardous liquid and natural gas pipelines to a design factor of 72% or lower pending completion of PHMSA investigation of possible use of defective pipe steel, any necessary fitness for service determinations, and opportunity for public review and participation in these activities.

All of the foregoing recommendations include easily accessible information disclosures by PHMSA and greater opportunities for public participation in PHMSA activities. Greater transparency in PHMSA operations is necessary to ensure public participation in and support for PHMSA activities. A lack of transparency will result in a lack of trust and risk greater opposition to pipeline development.

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<sup>70</sup> Id. at 8.