

National Energy
Board



Office national
de l'énergie

File OF-Surv-OpAud-P384-2009-2010 02
20 October 2011

Mr. David Duckett
President
Plains Midstream Canada ULC
Suite 1400, 607 8th Avenue S.W.
Calgary, AB T2P 0A7
Facsimile 403-233-0399

Dear Mr. Duckett:

**Status of pipeline integrity for Plains Midstream Canada ULC (Plains) 16.46 km
273 mm (NPS 10) Milk River and 172.90 km 323 mm (NPS 12) Wascana crude oil
mainlines, and associated safety measures**

The safety of Canadians and protection of the environment are of the utmost concern for the National Energy Board (Board). The Board expects its regulated companies to instil a culture that includes a holistic, systematic, and integrated approach to achieving positive results towards public safety and environmental protection, supported by senior management's commitment. The Board expects Plains to build such a culture in its workplace.

With respect to Plains' Corrective Action Plan (CAP) and its progress on the 2009 NEB Audit findings, the Board remains concerned with the integrity of the Milk River and the Wascana crude oil mainlines. Accordingly, the Board requires Plains to reduce the operating pressure of both pipelines and take further precautionary actions to ensure public safety and protection of the environment. The Board has issued Order SO-P384-004-2011 pursuant to sections 12 and 48 of the *National Energy Board Act* (the Act), which imposes a pressure restriction that is equivalent to 80% of the lowest pressure scenarios described in the attached Order. The Order also outlines the terms and conditions for which both crude oil mainlines may be returned to service at the maximum operating pressure.

The Board acknowledges Plains has conducted corrosion in-line inspections (ILI) on both pipelines and performed some repairs. However, the Board notes that Plains identified a high number of corrosion defects (i.e. 199) reported by the 2010 ILI exceeding the criteria set out in CSA-Z662 in the Milk River pipeline, as well as an increase of anomalies from the 2005 to 2010 ILIs. Plains also identified a high number of corrosion defects (i.e. 107) reported by the 2008 ILI in the Wascana crude oil pipeline, which is now being used as storage. The Board also notes as a

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result of the storage function of the Wascana pipeline, which began in 2009, the Wascana pipeline will require further internal corrosion testing and monitoring.

Plains advised the Board that it estimated a lower maximum operating pressure for the Milk River pipeline following its ILI report on 29 August 2010. On 21 September 2011, Plains indicated that it had “temporarily reduced the operating pressure to less than the lowest calculated failure pressure” of the corrosion defects reported by the 2010 ILI. On 30 September 2011, Plains explained to the Board that “pressure fluctuations (increasing and decreasing trends) occur during normal pipeline operations and are primarily related to varying throughputs”. The Board notes that Plains did not reduce the actual operating pressure of the pipeline, but rather increased its operating pressure trend over the period of September 2010 to April 2011. This is evident in the Milk River pressure profile that was requested by the Board, and provided by Plains on 28 September 2011.

The Order further requires Plains to conduct a Fitness-For-Service assessment proposing short-term and long-term mitigative and preventative measures associated with the current service (i.e. transportation, storage) of both pipelines. The assessment shall give priority consideration to populated areas (e.g. Regina) and environmentally sensitive areas.

The Board is continuing its evaluation of the 2009 NEB Audit CAP measures for all of Plains’ NEB regulated pipelines. The Board has authorized a Board Member, pursuant to subsection 15(1) of the Act, to:

1. Convey the seriousness of the Board’s safety concerns to Plains;
2. Assess Plains’ Management’s commitment to the safety and integrity of the Milk River and Wascana pipelines;
3. Assess Plains’ plans to comply with the Order; and
4. Report back to the Board.

Plains shall submit a written request to the Board seeking approval to lift the pressure restriction set out in the attached Order once the conditions are met.

If you have any questions concerning this matter, please contact Joshwa Minhas, Engineer – Integrity Management at 403-299-3674 or Nadia McCarthy, Engineer – Integrity Management at 403-221-3008.

Yours truly,



for Anne-Marie Erickson
Secretary of the Board



ORDER SO-P384-004-2011

IN THE MATTER OF the *National Energy Board Act* (the Act) and the regulations made thereunder; and

IN THE MATTER OF the status of pipeline integrity for Plains Midstream Canada ULC (Plains) 16.46 km 273 mm (NPS 10) Milk River and 172.90 km 323 mm (NPS 12) Wascana crude oil mainlines. National Energy Board File OF-Surv-OpAud-P384-2009-2010 02.

BEFORE the Board on 18 October 2011.

WHEREAS the Board regulates certain pipelines operated by Plains on which further assessment, mitigative and preventative actions must be completed;

AND WHEREAS the Board is concerned with the integrity of Plains' 273 mm (NPS 10) Milk River and 323 mm (NPS 12) Wascana crude oil mainlines, and the associated potential consequences to public safety and the environment;

NOW THEREFORE, pursuant to sections 12 and 48 of the Act, the Board hereby orders the following safety measures:

1. Plains shall operate the 273 mm (NPS 10) Milk River and the 323 mm (NPS 12) Wascana crude oil mainlines at pressures not exceeding 80% of the lowest of:
 - a. the latest successful hydrostatic testing pressure divided by a minimum 1.25 safety factor;
 - b. the lowest predicted burst pressure of the assessed pipe anomalies divided by a minimum 1.25 safety factor; or
 - c. the highest operating pressure during the 60 days prior to the date of this Order.

This pressure reduction shall be implemented within 5 days of the date of this Order, and Plains shall notify the Board in writing of the reduced operating pressure.

Plains shall submit at the beginning of each month until Condition 8 of this Order is approved, maximum daily discharge pressure profiles per calendar month period for the

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273 mm (NPS 10) Milk River and the 323 mm (NPS 12) Wascana crude oil mainlines.

2. No pressure restriction imposed by this Order shall be lifted prior to approval by the Board pursuant to Condition 8 below.
3. Within 30 days of this Order, Plains shall submit to the Board internal corrosion testing and monitoring plans, including their frequency, for the 323 mm (NPS 12) Wascana pipeline.
4. Within 180 days of this Order:
 - a. Plains shall submit to the Board a Fitness-For-Service (FFS) assessment proposing short-term and long-term mitigative, preventative and monitoring measures for the following pipelines:
 - i. the 273 mm (NPS 10) Milk River crude oil mainline
 - ii. the 323 mm (NPS 12) Wascana crude oil mainline

The FFS shall include the results of a complete pipeline threat (e.g. CSA-Z662 Annex H) susceptibility and identification assessment in conjunction with the assessment of potential safety and environmental consequences, and the resulting risks. The risk-based proposed mitigative, preventative and monitoring measures shall include, but not be limited to, additional repairs, ILI interval frequency, corrosion growth reduction and testing, and pipeline system modifications. Furthermore, populated areas (e.g. Regina) and environmentally-sensitive areas shall be prioritized in the implementation of those measures.


Plains shall ensure that the FFS uses the following minimum data and analysis:

- data from corrosion and geometry in-line inspection not older than five years (i.e. October 2006) considering the uncertainty associated with the In-Line Inspection accuracy and the corrosion growth change over time; and
 - analysis of data integration resulting from, but not limited to, the post-October 2006's corrosion and geometry ILI, cathodic protection, internal corrosion monitoring, external interference, incorrect operations, field investigations and susceptible pipeline integrity threats not yet identified.
- b. Plains shall file a report by a third party independent pipeline integrity expert with the Board. The expert shall independently review Plains' proposed Fitness-For-Service assessment, and proposed mitigative, monitoring and preventative measures. The expert shall simultaneously provide partial and final assessments to Plains and the NEB.

5. Within 5 days of this Order, Plains shall submit to the Board for approval the name and qualifications of a third party independent pipeline integrity expert.
6. Within 5 days of this Order, Plains shall submit to the Board for approval a detailed schedule outlining milestones and deliverables of the planned FFS.
7. Plains shall ensure the excavation program and timeline proposed to the Board in its 21 September 2011 filing is completed. Specifically, the field investigation of the 142 anomalies exceeding CSA-Z662 criteria shall be completed by no later than 31 December 2011. Plains shall provide to the Board for approval the results of the field investigations and the associated path forward actions.
8. Plains shall, at least 21 days prior to a proposed increase in operating pressure of the pipelines, submit a written request to the Board seeking approval to revise or lift the pressure restriction set out in Condition 1 of this Order. The request shall include, but not be limited to, evidence that Conditions 1 to 7 have been met.

NATIONAL ENERGY BOARD



 Anne-Marie Erickson
Secretary of the Board