



File OF-Surv-Gen-T217 01
26 June 2019

Mr. W. Alan Sawyer, Jr.
President and CEO
Trans-Northern Pipelines Inc.
45 Vogell Road, Suite 310
Richmond Hill, ON L4B 3P6

Dear Mr. Sawyer:

**Trans-Northern Pipelines Inc. (TNPI)
Amending Safety Order AO-002-SO-T217-03-2010
Condition 4.a.vii Report Filing**

The National Energy Board (Board) issued Amending Safety Order AO-002-SO-T217-03-2010 (Amending Safety Order) on 24 October 2016 to TNPI, allowing operation of its pipeline system subject to certain conditions.

On 12 April 2017, the Board issued Amending Safety Order AO-003-SO-T217-03-2010 to TNPI, varying Condition 4.a. of the Amending Safety Order among other directions.

Background and Events

Condition 4.a. of the Amending Safety Order requires:

For each of the pipeline sections in Schedules A, B, C and D
(as amended by AO-003-SO-T217-03-2010)

- a. TNPI shall perform the following actions:
 - i. TNPI shall conduct a hydraulic analysis that includes all possible steady and non-steady state condition scenarios for all TNPI facilities and pipeline segments at 100% Maximum Operating Pressure (MOP) and their reduced operating pressures (ROPs) to identify where overpressure events may occur. TNPI shall include in the hydraulic analysis an assessment of the collateral effects to the operation of third party pipelines in the event of an overpressure;
 - ii. TNPI shall conduct and validate the hydraulic analysis results by correctly predicting all of the reported overpressure incidents;

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- iii. TNPI shall develop and implement corrective and preventive measures in response to the results of the hydraulic analysis that are in compliance with CSA Z662-15 Clause 4.18. The recommended measures must include the installation of pressure relieving systems to ensure that overpressure will not occur at any point in the TNPI system;
- iv. TNPI shall integrate and optimize pressure-limiting systems, pressure-relieving systems, and Supervisory Control and Data Acquisition (SCADA), programmable logic controllers (PLC) and programming;
- v. TNPI shall file with the Board a report that describes the security measures with respect to its SCADA and PLCs operating systems;
- vi. TNPI shall notify the Board within 2 days after derating a pipeline section, if TNPI derates the operating pressure of any section set out in Conditions 1 a., 2 a., and 3 a. due to an identified transient analysis related issue. The notice must include the rationale for reducing the pipeline's pressure;
- vii. TNPI shall file with the Board for approval by 30 September 2017, a report that describes all specific evaluated scenarios, hydraulic analysis results, the recommended corrective and preventive measures, and the locations where overpressure protection system are proposed to be installed;
- viii. TNPI shall implement the recommended corrective and preventive measures within 24 months after receiving Board approval under 4.a.vii. TNPI shall file with the Board a report confirming that it completed the measures.

The sequence of events during the condition compliance phase for Condition 4.a.vii is set out in Appendix A.

Views of the Board

The Board has reviewed all information filed by TNPI in relation to Condition 4.a, including the following documents:

1. The hydraulic analysis report "*National Energy Board Condition 4a: TNPI Ontario-Quebec Pipeline Report*";
2. The Pipeline Pressure Surge Analysis Reports;
3. The Terminal Pressure Surge Analysis Reports;
4. The master report "*NATIONAL ENERGY BOARD CONDITION 4A INFORMATION REQUEST No.2*", Document No: 407011-00227-PL-REP-0021;
5. The revised pressure surge analysis report "*TNPI Toronto Airport Terminal*", Document NEB Condition 4a Project No. 407016-00227;
6. The "Condition 4a Report addendum to recommendations";
7. The Supplementary Report "*Pump Stations Case Pressure Surge Analysis*" Document No. 008123;
8. The responses provided to all Board information requests;
9. All notifications for derating pipeline sections.

The Board notes that documents filed by TNPI include recommended corrective, preventive, and mitigation measures (“the Recommended Measures”) required by Condition 4.a.vii. The Board considers that the information contained and provided by TNPI in the abovementioned documents meet the requirements of Condition 4.a.i through 4.a.vii.

Therefore, the Board approves the Recommended Measures identified for each TNPI pipeline section, pump station and terminal for operating pressures at 70% MOP, 90% MOP and the full MOP as included in the information filed in relation to Condition 4.a. For clarity, TNPI may only operate the pipelines at ROPs for which the applicable, approved Recommended Measures have been implemented. For further clarity, for any pipeline or segment of pipeline that TNPI wants to operate at a higher pressure than the currently approved ROP, TNPI is required to implement Recommended Measures applicable to full MOP with pressure relieving systems.

The Board reminds TNPI that Condition 4.a.viii is not yet complete. As required by Condition 4.a.viii, TNPI must implement the Recommended Measures within 24 months after receiving Board approval of Condition 4.a.vii, as from the date of this letter, which is 26 June 2021. Further, TNPI must file with the Board a report confirming that TNPI completed the Recommended Measures.

The Board recognizes that changes in the hydraulic analysis may occur during the implementation of the Recommended Measures approved by this Letter. The Board reminds TNPI that, during the 24 month implementation period, it requires Board approval to change any approved Recommended Measures.

Yours truly,

Original signed by L. George for

Sheri Young
Secretary of the Board

Attachment

Appendix A

On 28 September 2017, TNPI filed for review and approval the hydraulic analysis report in compliance with Condition 4.a.vii.

Subsequently, on 2 November 2017 Board staff submitted an Information Request (IR) to TNPI requesting additional information. TNPI submitted the responses as requested on 15 November 2017.

Two additional rounds of IRs were submitted to TNPI following up on the 23 November 2017 Technical Meeting between TNPI and Board staff. TNPI submitted the IRs responses on 8 March 2018 and 16 March 2018. On 3 April 2018, TNPI submitted a master report as requested by Board staff.

As required by Condition 4.a.vi, TNPI filed notifications for derating pipeline sections on 26 January 2017, 12 May 2017, 1 September 2017, 13 September 2017, and 27 April 2018.

On 18 June 2018, Board staff submitted an IR to TNPI requesting additional information regarding the notification for derating pipeline section dated 27 April 2018. TNPI responded on 27 June 2018 and also filed a revised pressure surge analysis report for the Toronto Airport Terminal.

On 16 August 2018, TNPI submitted a “Condition 4a Report Addendum to recommendations”, pertaining to the previous reports related to Toronto Airport and Montreal and Dorval Terminals.

On 22 October 2018, Board staff submitted an IR to TNPI following up on information received in March 2018. TNPI responded on 29 November 2018.

On 15 November 2018, TNPI filed a Supplementary Report regarding Condition 4.a.vii.

On 25 January 2019, Board staff submitted questions to TNPI on the Supplementary Report in preparation for the Implementation Assessment Meeting held on 27 March 2019.

On 11 March 2019, TNPI submitted responses to the questions regarding the Supplementary Report.

On 27 March 2019, Board staff conducted an Implementation Assessment Meeting (CV1819-282) with TNPI to discuss the Supplementary Report along with other agenda items.