

AER Bulletin 2014-12

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Enhanced Monitoring of Pipeline Water Crossings

With springtime melt rapidly approaching, the Alberta Energy Regulator (AER) hereby reminds pipeline licensees of their responsibility to take appropriate precautions to prevent damage to, and to minimize the potential of a release from, all pipelines subject to being affected by high streamflow or flooding conditions.

To fulfill this responsibility and understand the potential risks to its pipelines, the licensee must be aware of the potential for pipeline damage resulting from high streamflow conditions and physically inspect and assess any pipeline water crossings that might have previously been or have the potential to be affected by high streamflow conditions.

High streamflow and flooding conditions can rapidly scour away riverbeds, cause bank instability, and wash out pipeline crossings at creeks, streams, and rivers, as well as at areas that might not normally experience water flow. Flooding can cause channel avulsion and create new water crossings where pipelines were not originally designed as a crossing. Flooding can also cause significant displacement of rock and debris, which can impinge on exposed pipelines and create high stresses or damage.

Assessments should be conducted by competent professionals and include geotechnical and hydrological hazard evaluation, which typically include depth of cover, bed stability, bank stability, channel characteristics, and potential watercourse energy evaluations. If the pipeline may have been previously exposed, then the potential for coating or structural damage from high stresses should also be evaluated.

If assessments indicate that a pipeline is currently in distress, the pipeline should be purged and shut in. If assessments indicate potential risk, the licensee should then prepare procedures to monitor for high streamflow advisories and be prepared to purge and shut in any affected pipelines if necessary. The licensee may also need to remediate the crossing to re-establish safe cover and properly protect the pipeline from potential damage. Licensees are advised to notify the AER of any such situations, and it may be prudent to file a self-disclosure application if the situation is such that a noncompliance would exist.

The assessments described in this bulletin should already be part of the licensee's established pipeline integrity management program. Water crossing inspections are to be conducted frequently at intervals appropriate to identify any changes to the crossing environment, as required by the

Canadian Standards Association's *CSA Z662-11: Oil and Gas Pipeline Systems*. The Alberta *Pipeline Rules* also require that all pipeline water crossings be inspected at least annually.

inquiries 1-855-297-8311
24-hour
emergency 1-800-222-6514

Up-to-date advisories on current streamflow and water emergency conditions can be obtained from the Environment Canada and Alberta Environment and Sustainable Resource Development websites at: http://www.wateroffice.ec.gc.ca/index_e.html and <http://www.environment.alberta.ca/apps/basins/default.aspx>

Questions regarding this bulletin may be directed to the AER at PipelineOperations@aer.ca.

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