



SAFETY ADVISORY SA 2022-01 DEPTH OF COVER AND AGRICULTURAL ACTIVITIES



5 Oct, 2021 near McAuley, Manitoba

- Around 15:30 a farmer maintaining an existing drainage feature in a cultivated field, hit the 6" Minnell pipeline transporting natural gas at ~100 PSI near McAuley Manitoba, causing a rupture. No injuries.
- There was less than 12 cm (4.7") cover where the blade contacted the pipe.
- Damaged section was isolated using valves at gate stations to stop the flow of natural gas by 17:30 CDT on 5 October. The gas in the line vented to atmosphere.
- 17 communities impacted when the supply of gas was cut off, including Dauphin & the Dauphin Hospital. Gas supply was maintained by line pack and trucked in CNG.



Factors:

- Last DOC survey - 2009
- Drainage feature has been there for decades - visible on Google Earth

CER & Transportation Safety Board (TSB)

- CER and TSB personnel deployed to damage site.
- Line was purged back into service and pressurized with natural gas the morning of 8 October



Sidebar: Difference between the CER and the TSB

CER

- Investigates to determine compliance to regulations
- **Issues NNCs and/or other compliance and enforcement tools** if required (specific corrective actions)
- Issue industry wide safety and information advisories
- Update regulations periodically, if/when required

TSB

- Conducts independent investigations of air, marine, pipeline and rail incidents
- Communicates safety deficiencies to those able to address them before an investigation is complete
- Reports publicly on the investigation, the **factors that caused or contributed** to the occurrence, and the safety deficiencies that need to be addressed
- The TSB does not have the mandate or authority to implement specific corrective actions.

Transportation Safety Board (TSB)

Class 3 occurrence:

- May have significant consequences that attract lots of public interest
- May involve fatalities or injuries, or a release of dangerous goods; cause significant property or environmental damage
- Likely that new safety lessons will be identified and risks to persons, property or the environment will be reduced.
- Detailed investigation is required, and generally completed and a public report issued in 450 days
- Important note - as a part of their investigation, the TSB looks at us to see if our regulations adequately address the matter.

Definition of Agricultural Activity

- Agricultural activity is broadly defined in section 13(2) of the DPR-A to mean “the production of crops and the raising of animals and includes tillage, plowing, disking, harrowing and pasturing, but does not include the construction of new buildings or impervious areas or the placement of footings, foundations, pilings or posts, including fence posts.”
- Cultivation of less than 45 cm is not considered a ground disturbance under section 2 of the CER Act.





Regulatory Requirements

- DPR-Obligations of Pipeline Companies - s.7 requires companies to identify specific locations where agricultural activities could damage the pipe and notify landowners and land users in writing of those locations
- DPR Guidance notes: "Periodic depth of cover surveys and surveillance and monitoring of the pipeline for conditions and activities that reduce the depth of cover over the pipeline are required as part of the damage prevention program within the company's management system."



CER actions

- DP staff identified a need to issue a Safety Advisory (SA)
- Important that we issue SA **before** planting/seeding season



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**All Companies under Canada Energy Regulator Jurisdiction
Canadian Common Ground Alliance
Canadian Association of Petroleum Producers
Provincial and Territorial Regulators**

Safety Advisory SA 2022-01 – Depth of Cover in Agricultural Areas

Please find attached Safety Advisory SA 2022-01 Depth of Cover in Agricultural Areas.

The Canada Energy Regulator (CER) expects regulated companies to take all reasonable care to ensure the safety and security of persons, the safety and security of regulated facilities and abandoned facilities, and the protection of property and the environment.

Safety Advisories are periodically issued to inform the pipeline, oil, and gas industries of an identified safety or environmental concern with the goal of preventing similar incidents. A Safety Advisory serves to highlight CER regulatory requirements and to convey the CER's expectation that regulated companies take appropriate action to mitigate any potential impacts to people or the environment.

The enclosed Safety Advisory is a reminder that pipeline companies are required under the *Canadian Energy Regulator Onshore Pipeline Regulations* to identify and analyze all hazards and potential hazards, including those relating to depth of cover, and to develop and implement a Damage Prevention Program. Companies are also required to establish and implement a process for developing and implementing controls, such as depth of cover surveys, to prevent, manage and mitigate identified hazards, potential hazards and risks, as well as for communicating controls to anyone who is exposed to the risks.

In addition, companies are also required pursuant to section 7 of the *Canadian Energy Regulator Pipeline Damage Prevention Regulations – Obligations of Pipeline Companies* to identify specific locations where the operation of vehicles or mobile equipment across pipelines for agricultural purposes could impair the pipeline's safety or security. If so, companies must notify the following people of these locations:

- (a) Landowners of the specific locations; and
- (b) Persons that are engaged in agricultural activities, rent or lease the land or work as service providers or employees at the specific locations.

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SA 2022-01 Regulatory requirements

- Section 94 of the CERA - take all reasonable care to ensure safety & security of persons, regulated facilities, abandoned facilities and the protection of property and the environment.
- Section 6.5 of the OPR to establish and implement effective management system processes relating to hazards and risks. With respect to DOC, these processes include:
 - identifying and analyzing hazards and potential hazards, such as those associated with agricultural activities;
 - evaluating risks, including risks related to normal and abnormal operating conditions;
 - developing and implementing controls to prevent, manage and mitigate hazards and for communicating those controls to anyone who is exposed to the risks; and
 - the internal and external communication of information relating to safety matters.

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Regulatory requirements related to DOC

- Section 47.2 of the OPR Damage Prevention Management System - companies must develop, implement and maintain Damage Prevention Program
 - These programs must include public awareness measures that address work safety near pipelines, ground disturbances and the operation of vehicles or mobile equipment across pipelines.
- Section 7 of the DPR-O - companies must identify specific locations where the operation of vehicles or mobile equipment across pipelines for agricultural purposes could impair the pipeline's safety or security. Companies must also notify landowners and land users & employees of those locations

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Preventive actions related to DOC

1. Periodically engage landowners and land users to obtain updates on the following:
 - the activities being conducted on or near pipelines;
 - the vehicles and/or equipment being used for crossings, if any; and
 - depth of cover issues and changes in the land that may have been observed on pipeline right-of-ways (**ROWS**);
2. Monitor depth of cover on ROWs and be knowledgeable of the activities and conditions that may reduce depth of cover over time, including natural disasters such as floods, fires and mudslides;
3. Conduct and document periodic pipeline patrols. Patrol observations should include conditions impacting depth of cover on ROWs. *Reporting on an ad hoc basis or only by exception does not demonstrate monitoring conditions over time;*

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Preventive actions related to DOC (cont.)

4. Best practice: taking depth measurements at the lowest point of cover (bottom) and on both shoulders of drainage features when conducting depth of cover surveys;
5. Where inadequate depth of cover is identified, immediately prevent physical damage to the pipeline and notify landowners and appropriate third parties;
6. Periodically evaluate effectiveness of depth of cover procedures, particularly with respect to confirming locations where agricultural activities take place; selecting methods for confirming depth of cover in such areas; identifying high-risk crossing locations; and notifying landowners and third parties of these locations; and
7. Ensure adequate staffing, resources, and support for damage prevention programs.

What's next - other CER actions...



Industry facing initiatives

- DPP & PAP screening tools have been improved - more questions about monitoring DOC and landowner communication
- We are holding this DP Workshop and discussing DOC and the SA
- Articles in:
 - Land Matters Group Newsletters,
 - Canadian & regional Common Ground Alliance newsletters
 - LinkedIn
- Web story on the CER website



QUESTIONS?

