

REPORT TO: Halton-Hamilton Source Protection Committee
REPORT NO.: SPC-21-03-03
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DATE: February 28, 2021
SUBJECT: S. 36 Updates: Proposed Source Protection Plan Policy Updates

Recommendation

THAT the Halton-Hamilton Source Protection Committee **endorses the Staff report S. 36 Updates: Proposed Source Protection Plan Policy Updates.**

Executive Summary

Halton-Hamilton Source Protection Region (HHSRP) staff met virtually with municipalities and liquid hydrocarbon pipeline companies to discuss policy implementation challenges through 2020 and early 2021. Staff contacted regulatory agencies on their requirements. Based on discussions and information, staff propose revisions to policies. This work supports the Section 36 Workplan Task #1: “Review and amendments to make the documents current and easily understood”, Task #2: “Amendments to make the documents compliant”, and Task #8: “Policy Amendments”.

Report

Background

Under Section 36 of the Clean Water Act, the Ministry of the Environment, Conservation and Parks (MECP) required the submission of workplans to review Source Protection Plans. This has led to the second round of source protection planning across Ontario. The workplan for the Halton and Hamilton source protection areas was approved by MECP in March 2019, with a proposed timeframe of March 2021. It includes tasks to review both science and policies, to support the continued protection of drinking water sources. The workplan is available at the website: <https://bit.ly/3k6pyu0>

Policy Format

As described in the Section 36 workplan, users of the source protection plan requested amendments to provide clarity and to make the plan more easily understood. These include vulnerable area geographic references and legal effect of each policy. Formatting is required to ensure compliance with the Accessibility for Ontarians with Disabilities Act, 2005 (AODA).

HHSRP staff reviewed other policy formats in source protection plans relevant to municipalities spanning watersheds, specifically the plans of the Lake Erie Region, CTC Region, and Niagara Peninsula Area. In early February 2021, the format in **Table 1** was presented to municipal staff for their input. There was mutual consensus on the content. As mentioned by the neighbouring Lake Erie region program manager, the plan should state that the “policy” portion is the legal policy text, while other details are added to provide clarity and to make the plan more easily understood for readers.

Staff provide the following formats in two layout options for consideration of the Halton-Hamilton Source Protection Committee (HHSPC). The document **accessibility checker** (built into Microsoft Word) was used to ensure the removal of any accessibility issues.

Table 1: Policy Format Example A

Policy ID	Threat	Policy Tool	Policy Implementer	Policy	Legal Effect	Where Policy Applies	When Policy Applies
T-20-C	Application and storage of agricultural source material	Part IV-RMP	RMO	Where the existing and potential future application and storage of agricultural source material (ASM) on farms not phased-in under the Nutrient Management Act are or would be significant drinking water threats, a) a risk management official shall screen all building permit and Planning Act applications b) a risk management official shall establish risk management plans c) the risk management official shall document action taken regarding risk management plans for the application and storage of agricultural source material in their annual report....	a) I (comply with) b) H (comply with) c) F (comply with) (See Appendix C)	WHPA-A, B VScore 10 Figure 4	Existing: within 5 years... And Future: Immediately

Table 2: Policy Format Example B

Policy ID	T-20-C
Threat	Application and storage of agricultural source material
Policy Tool	Part IV-RMP
Policy Implementer	RMO
Policy	Where the existing and potential future application and storage of agricultural source material (ASM) on farms not phased-in under the Nutrient Management Act are or would be significant drinking water threats, a) a risk management official shall screen all building permit and Planning Act applications b) a risk management official shall establish risk management plans c) the risk management official shall document action taken regarding risk management plans for the application and storage of agricultural source material in their annual report....
Legal Effect	a) I (comply with) b) H (comply with) c) F (comply with) (See Appendix C)
Where Policy Applies	WHPA-A, B; VScore 10. Figure 4
When Policy Applies	Existing: within 5 years...; Future: Immediately.

The details, in addition to the legal policy text, help provide the following for the reader's clarity and convenience:

- A description of the threat activity
- The policy tool which is being applied to either manage or prohibit the activity
- The policy implementing body
- The legal effect of the policy, such as “conform with”, “comply with”, or “non-binding” in relation to the legal effect list in Appendix C of the source protection plan
- The vulnerable area where the policy applies including the vulnerability score and the map/figure showing policy applicability areas
- Whether the policy will apply to existing activities, future activities or both.

Some of the source protection plan policies contain both legally binding and non binding parts, and some address significant, moderate, and low level threats together. It is recommended that these policies be separated out based on the legal effect and threat level addressed (i.e. significant separate from moderate and low), to ensure clarity for policy implementers and streamline the annual progress reporting process. These policies include: T-29 C/S, T-34-C/S, T-35-C/S, T-36-S, T-49-S, T-52 C/S and T-53 C/S.

General Interpretation Policy

If reader-friendly information is included in the source protection plan as described above, a general interpretation policy should be added to the plan to speak to the legal portions of the source protection plan and what is provided for reader information. Draft policy text will be provided at the next HHSPC meeting.

Policies for liquid hydrocarbon pipelines

In the first round of source protection planning, liquid hydrocarbon pipelines were not prescribed threats under the Clean Water Act. The HHSPC used modelling studies to simulate oil pipeline rupture spills. Note that the term “oil pipeline” was used at the time by the HHSPC for the local threat not prescribed by regulations. Significant drinking water threats were identified, and policies developed accordingly. The Source Protection Plan was approved by MECP in 2015.

In 2018, the “establishment and operation of a liquid hydrocarbon pipeline” was added to the list of prescribed threats. The **SPC Business Report #20-09-04** (September 2020) explains the threats risk assessment conducted by staff. The **SPC Business Report #20-12-02** (December 2020) provides policies proposed by staff based on HHSPC discussions, Canada Energy Regulator information, and draft policies at other source protection regions/areas.

Table 3 provides an overview of the liquid hydrocarbon pipelines in or crossing through the region, and regulatory bodies based on information from the pipeline companies.

Table 3: Liquid Hydrocarbon Pipelines and Regulators

Regulator	Liquid Hydrocarbon Pipelines relevant to HHSPR
<p>Canada Energy Regulator https://bit.ly/3bw99LH Regulates pipeline systems that cross provincial or international boundaries.</p>	<ul style="list-style-type: none"> • Trans Northern Pipeline Inc. (TNPI) • Enbridge - Line 9 • Westover Express - Line 10 (operated by Enbridge) • Enbridge - Line 11 <p>Note: Line 10 and Line 11 run parallel to each other.</p>
<p>Ontario Energy Board https://bit.ly/3pBTn6Z and the Technical Standards and Safety Authority (TSSA) Regulate pipeline systems within the province of Ontario.</p>	<ul style="list-style-type: none"> • Sun-Canadian Pipe Line - Sarnia to Toronto • Sun-Canadian Pipe Line - Sarnia to Hamilton • Imperial Oil’s Sarnia Products Pipeline

Staff researched and sought information from regulatory bodies and industry experts on requirements applicable to liquid hydrocarbon pipelines. In 2019, 2020, and 2021, staff contacted the Ontario Energy Board, Canada Energy Regulator and the Technical Standards and Safety Authority (TSSA). Staff sought confirmation that current regulatory requirements for liquid hydrocarbon pipeline companies ensure the protection of drinking water sources. The Canada Energy Regulator responded and confirmed so. The Ontario Energy Board and TSSA are yet to respond.

In January and February 2021, the HHSPR senior manager Chitra Gowda and HHSPC industrial-commercial member Sarah McQuaig met virtually with companies that operate liquid hydrocarbon pipeline relevant to the geographic extent of the HHSPR (see **Table 3**). The senior manager explained the source water protection program background and the proposed draft policies. Preliminary feedback was sought and obtained from some of the companies, which was helpful in updating the proposed policies - while maintaining the intent of the Clean Water Act to protect drinking water sources.

The industry appears to be subject to numerous regulations, codes and standards that speak to the elements of design, construction, operation, abandonment, leak detection, integrity management, safety valve placement, emergency response planning, consideration of high impacts areas and environmentally sensitive areas, etc. Certain regulations adopt stringent codes of the Canadian Standards Association (CSA) many of which are relevant to environmental considerations.

- **Attachment 1** provides an overview of main regulatory bodies, regulations, standards and codes for the liquid hydrocarbon pipeline industry. It is not an exhaustive list.
- **Attachment 2** shows correspondence between HHSPR and the Canada Energy Regulator through emails in 2020 and 2021 clarifying the latter’s requirements.

- **Attachment 3** summarizes preliminary feedback from pipeline companies, with HHSPR comments for the committee's consideration.
- **Attachment 4** provides relevant excerpts of SPC Report #20-12-02 (December 2020).
- **Attachment 5** is the current policy T-52-C/S indicating legal effect of policy parts.
- **Attachment 6** provides compliance lists and legal effect of plan policies.
- **Attachment 7** is a formal interpretation of the CSA referred to in Attachment 2.

The HHSPR Senior Manager contacted the other program managers across Ontario, and none have sought feedback from the industry about draft policies. More detailed discussions with neighbouring regions indicate that Niagara Peninsula is following draft policy approaches similar to the HHSPR, and likely Lake Erie region as well.

Based on the information summarized in Attachments 1-6, proposed policies to manage liquid hydrocarbon pipelines are provided below in **Table 4**. Note that the policies remain non-legally binding under the Clean Water Act framework.

Table 4a: Policy T-60-S

Quick summary: This policy manages existing significant threats. It requests the Canada Energy Regulator and TSSA to ensure that their regulatory requirements manage liquid hydrocarbon pipelines that are existing significant drinking water threats.

This policy helps to consolidate and revise:

- Current policy L-1-S (pipeline integrity testing)
- Policy T-62-S proposed at the Dec. 2020 HHSPC meeting (safety valve locations).

Note that this policy fills a gap by applying to existing threats.

Policy ID	T-60-S
Threat	Establishment and operation of a liquid hydrocarbon pipeline
Policy Tool	Specify Action
Policy Implementer	Canada Energy Regulator, Technical Standards and Safety Authority
Policy	<p>Where the establishment and operation of a liquid hydrocarbon pipeline is an existing significant drinking water threat,</p> <p>a) Canada Energy Regulator and Technical Standards and Safety Authority are recommended to ensure that their regulatory requirements manage liquid hydrocarbon pipelines through appropriate design standards (including the location of safety valves), monitoring, maintenance (including integrity management programs) and other relevant practices, such that drinking water sources are protected.</p> <p>b) Conservation Authorities shall request the Canada Energy Regulator and Technical Standards and Safety Authority to confirm that their requirements for liquid hydrocarbon pipelines manage existing significant drinking water threats.</p>
Legal Effect	<p>a) List K - significant threat - non legally binding.</p> <p>b) List F (comply with) - legally binding monitoring policy.</p>
Where Policy Applies	Event-based IPZ-3 (no scores)
When Policy Applies	Existing: Immediately

Table 4b: Policy T-61-S

Quick summary: This policy manages future threats using a preventative approach. It requests the Canada Energy Regulator and Ontario Energy Board to ensure that applicants for new pipelines comply with appropriate practices that prevent any new pipelines from becoming significant drinking water threats.

This policy helps to consolidate and revise:

- Current policy L-1-S (pipeline integrity testing)
- Current policy L-2-S (practices for applicants/future pipelines)
- Policy T-62-S proposed at the Dec. 2020 HHSPC meeting (safety valve locations).

Policy ID	T-61-S
Threat	Establishment and operation of a liquid hydrocarbon pipeline
Policy Tool	Specify Action
Policy Implementer	Canada Energy Regulator, Ontario Energy Board
Policy	<p>Where the establishment and operation of a liquid hydrocarbon pipeline could become a significant drinking water threat,</p> <p>a) Canada Energy Regulator and Ontario Energy Board in their consideration of a liquid hydrocarbon pipeline application are recommended to ensure that the applicant has complied with and included appropriate design standards (including the location of safety valves), monitoring, maintenance (including integrity management programs) and other relevant practices, that when implemented will prevent a pipeline from becoming a significant drinking water threat.</p> <p>b) Conservation Authorities shall request the Canada Energy Regulator and Ontario Energy Board to confirm that their requirements for pipeline design standards, monitoring, maintenance and other relevant practices in vulnerable areas prevents a pipeline from becoming a significant drinking water threat.</p>
Legal Effect	<p>a) List K - significant threat - non legally binding.</p> <p>b) List F (comply with) - legally binding monitoring policy.</p>
Where Policy Applies	Event-based IPZ-3 (no scores), WHPA-A & B - V. score 10, WHPA-E – V. score 9
When Policy Applies	Future: Immediately

Table 4c: Policy T-62-S

Quick summary: This policy manages existing and future low, moderate or significant threats. It requests the pipeline owners to use assessment reports and other relevant, available watershed information while developing and updating emergency planning zones to include environmentally significant areas.

This policy helps to revise:

- Policy T-63-S (c) proposed at the Dec. 2020 HHSPC meeting (relevant watershed information). Note that part (a) (signage in navigable waterways) is suggested to be dropped from consideration, and part (b) (include CAs in the consultation process) is consolidated into proposed policy T-63-S on the next page.

Policy ID	T-62-S
Threat	Establishment and operation of a liquid hydrocarbon pipeline
Policy Tool	Specify action
Policy Implementer	Liquid hydrocarbon pipeline owners
Policy	Where the establishment and operation of a liquid hydrocarbon pipeline is or could be a low, moderate or significant threat to drinking water sources, a) Liquid hydrocarbon pipeline owners are requested to use threats risk assessment information from assessment reports approved under the Ontario Clean Water Act, 2006 and relevant watershed information while developing and updating emergency planning zones (EPZs) and designated geographical areas (DGAs). b) Conservation Authorities shall provide the approved assessment reports (of the Halton and Hamilton source protection areas), and other relevant watershed information if available, to liquid hydrocarbon pipeline owners.
Legal Effect	a) List K - significant threat - non legally binding; and List J – moderate and low threat – non legally binding b) List F (comply with) - legally binding monitoring policy.
Where Policy Applies	Event-based IPZ-3; IPZ-1 – V. score 7&6; IPZ-2, score 6.3 & 5.4; WHPA-A & B – V. score 10; WHPA-B & C – V. score 8&6; WHPA-D – V. score 6; WHPA-E – V. score 9 & 8.1; HVAs – V. score 6.
When Policy Applies	Existing and future: immediately

Table 4e: Policy T-63-S

Quick summary: This policy manages existing and future significant threats. It requests the liquid hydrocarbon pipeline companies to update their emergency response plans for: vulnerable area mapping, actions to address incidents involving source water, and appropriate preparedness exercises.

This policy helps to revise:

- Current policy T-52-C/S which combines several policy implementers and different legal effects, and this affects clarity and progress reporting. The proposed policy below uses part(c) from current policy T-52-C/S. This helps to separate out the non-legally binding parts from the legally binding parts and better clarify the policy implementers for each part.

Policy ID	T-63-S
Threat	Establishment and operation of a liquid hydrocarbon pipeline
Policy Tool	Specify action
Policy Implementer	Liquid hydrocarbon pipeline owners
Policy	Where the establishment and operation of a liquid hydrocarbon pipeline is a significant threat to drinking water sources, liquid hydrocarbon pipeline owners are requested to update emergency preparedness/contingency plans to include: drinking water vulnerable areas, actions to protect drinking water sources if an incident occurs, and emergency preparedness exercises to ensure the protection of drinking water sources.
Legal Effect	List K - significant threat - non legally binding
Where Policy Applies	Event-based IPZ-3 (no scores), WHPA-A & B - V. score 10, WHPA-E – V. score 9
When Policy Applies	Existing and future: immediately

Table 4e: Policy T-64-S

Quick summary: This policy manages existing significant threats. It requests the MECP to provide IPZ-3 maps and significant threat locations to the Spills Action Centre and report back to HHSPR.

This policy helps to revise:

- Current policy T-52-C/S which combines several policy implementers and different legal effects, and this affects clarity and progress reporting. The proposed policy below uses parts (a) and (d) from current policy T-52-C/S. This helps to separate out the non-legally binding parts from the legally binding parts and better clarify the policy implementers for each part.

Policy ID	T-64-S
Threat	Establishment and operation of a liquid hydrocarbon pipeline
Policy Tool	Specify action
Policy Implementer	Ministry of the Environment, Conservation and Parks
Policy	<p>Where the establishment and operation of a liquid hydrocarbon pipeline is a significant threat to drinking water sources,</p> <ul style="list-style-type: none"> a) the Ministry of the Environment, Conservation and Parks shall provide mapping of intake protection zones three and the locations of known significant threats to the Spills Action Centre, and if necessary modify procedures to ensure that the operators of all water treatment plants that could be affected by a spill are notified. b) by February 1 of each year, the Ministry of the Environment, Conservation and Parks shall prepare and submit to the Source Protection Authority a report summarizing their actions for the previous year, including the number, type, and location of spills reported within intake protection zones three, adjusted thresholds, and actions taken or recommended to improve the efficiency and effectiveness of the spill reporting system.
Legal Effect	List K - significant threat - non legally binding
Where Policy Applies	Event-based IPZ-3 (no scores)
When Policy Applies	Existing: immediately

Table 4d: Policy T-65-S

Quick summary: This policy manages existing and future low, moderate or significant threats. It requires the CAs to provide awareness sessions to interested pipeline companies, and request information updates.

This policy helps to revise:

- Policy T-63-S (b) proposed at the Dec. 2020 HHSPC meeting (include CAs in the consultation process).
- Current policy T-52-C/S which combines several policy implementers and different legal effects, and this affects clarity and progress reporting. The proposed policy below uses part (e) from current policy T-52-C/S. This helps to separate out the non-legally binding parts from the legally binding parts and better clarify the policy implementers for each part.

Policy ID	T-65-S
Threat	Establishment and operation of a liquid hydrocarbon pipeline
Policy Tool	Education and outreach
Policy Implementer	Conservation Halton
Policy	<p>Where the establishment and operation of a liquid hydrocarbon pipeline is or could be a low, moderate or significant threat to drinking water sources, Conservation Authorities shall on an annual basis:</p> <ul style="list-style-type: none"> • provide educational awareness sessions on drinking water source protection to interested liquid hydrocarbon pipeline companies; • request information updates including new or changes to pipelines; • provide website addresses to approved assessment reports and source protection plan; • request an invitation from liquid hydrocarbon pipeline owners to observe emergency preparedness exercises relevant to the Halton-Hamilton Source Protection Region; and • request a copy of the emergency preparedness plans when amended.
Legal Effect	List E - significant threat – comply with; and List J – moderate and low threat – non legally binding
Where Policy Applies	Event-based IPZ-3; IPZ-1 – V. score 7&6; IPZ-2, score 6.3 & 5.4; WHPA-A & B – V. score 10; WHPA-B & C – V. score 8&6; WHPA-D – V. score 6; WHPA-E – V. score 9 & 8.1; HVAs – V. score 6.
When Policy Applies	Existing and future: immediately

Policies with implementation challenges and proposed solutions

The Section 36 workplan for the Halton and Hamilton source protection areas describes policy implementation challenges and the need to find solutions. These are described below.

Policy T-26-C parts (a) and (b) and T-22-S (b)

Policy part (a) requires OMAFRA to ensure that nutrient management plans manage the application of commercial fertilizer such that the activity never becomes a significant threat. Policy part (b) requires OMAFRA to document the number and locations of properties where nutrient management plans were reviewed and to record measures taken. During the development of the Section 36 workplan in 2018, the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) informed HHSPR that they do not review nutrient management plans, giving rise to a policy implementation challenge.

Although OMAFRA does not review and approve nutrient management plans, they still have oversight. In March 2020, HHSPR and OMAFRA corresponded further on this matter. Additional detailed information was provided by OMAFRA in January 2021 for annual progress reporting for 2020. The application of commercial fertilizer is managed through a nutrient management plan. The regulatory standards required of those farmers that are required to have a nutrient management plan include standards regarding commercial fertilizer. For instruments not approved by OMAFRA, the approvals process is revised to delegate the letter of conformity preparation to a certified person.

OMAFRA has revised the training of certified nutrient management planners to include source water protection. Guidance has been developed for Risk Management Officials, farmers and certified individuals that prepare Nutrient Management Plans to use to help determine if a prescribed instrument conforms to the significant drinking water threat policies. They are available at <https://www.nutrientmanagement.ca/resources/source-water-protection/>. Some training was also delivered by OMAFRA to certified preparers on requirements and responsibilities of incorporating source water protection into prescribed instruments (nutrient management plans included). These actions satisfy the intent of policy T-26-C (a), and it is agreed by OMAFRA and HHSPR that the policy is implemented. Therefore, **no change** is required to T-26-C (a).

With respect to policy T-26-C part (b), OMAFRA does not issue (approve) or review nutrient management plans and has indicated that their response to the annual reportable of: “number of prescribed instruments approved” will always be zero/not applicable. OMAFRA will not be able to provide this data for commercial fertilizer. Staff recommend the **removal** of T-26-C part (b).

It is recognised that a continued reliance is placed on monitoring policy T-22-S (b) to fill the gap noted above. This monitoring policy requires that the MECP annual report document the locations of inspections compliant and non-compliant with nutrient management plans and strategies and non-agricultural source material plans, and the

actions taken for threat activities related to agricultural source materials, non-agricultural source materials, commercial fertilizer and land used for outdoor confinement areas and farm-animal yards.

Through the 2020 annual progress reporting, MECP reports that it carries out annual proactive inspections at agricultural operations operating under approved nutrient management strategies, plans and non-agricultural source material (NASM) plans. Each year regulated operations are identified and each one is assigned an overall risk score. Several risk factors are considered including source water protection vulnerable area information. Sites that intersect with source protection vulnerable areas with the highest risk scores (i.e. scores of 8 or greater) are assigned relatively higher inspection priority risk scores. District offices decide which sites to inspect. Although it appears that T-22-S (b) is being implemented, HHSPR staff have requested MECP in 2021 to confirm that commercial fertilizer is included in the inspections undertaken for properties where nutrient management plans apply. As well, Policy T-27-C requires education and outreach be applied to manage the application of commercial fertilizer.

Policy T-53-S part (c)

This policy requests that the Ministry of Municipal Affairs and Housing (MMAH) enact regulations under the Planning Act to enable the use of conditional zoning. Although a strategic policy, this was deemed this an important policy approach while developing the source protection plan. Conditional zoning would provide increased flexibility for municipalities to manage significant drinking water threats. In 2019 and in 2021, HHSPR contacted MMAH to ask why the policy was not implemented. Per the 2020 annual progress reporting, MMAH takes source water protection into consideration in its review of new land use planning documents (official plans, comprehensive zoning bylaws) and development applications as applicable. If there has been no pressing need by municipalities and not anticipated in the future, staff recommend the **removal** of policy T-53-S part (c).

Policy T-47-C part (b)

This legally binding policy part (b) requires risk management plans to manage significant threat activities of farm land used for livestock outdoors. (Part (a) uses Section 59 Restricted Land Use; and part (c) is for annual reporting). The risk management plan policy tool currently applies where there is a:

- chemical-based circumstance of > 1 NU/acre in: WHPA A&B – V. score 10; WHPA E – V. score 9; and
- pathogen-based circumstance of any number of animals in: WHPA A&B – V. score 10; WHPA E – V. score 9, 8.1, and 8.

The use of a hard regulatory policy tool by risk management officials and inspectors to manage livestock grazing of a small number of animals is somewhat an overbearing approach on the ground. At the same time, it is imperative that the drinking water

sources be protected. Therefore the HHSPC is requested to consider the following policy approaches in **WHPA-B and WHPA-E of the above noted vulnerability scores**:

- Option 1 (aligns pathogen to chemical circumstance to trigger the need for a risk management plan):
 - 0 to 1 NU/acre in WHPA-B&E: use education and outreach
 - >1NU/acre in WHPA-B&E: use risk management plan.
- Option 2 (increases NU limit to trigger the need for a risk management plan):
 - If 0 to 4 NU/acre in WHPA-B&E, use education and outreach
 - If >4NU/acre in WHPA-B&E, use risk management plan.
- Option 3 (aligns with the 5 NU criteria for nutrient management strategies):
 - If 0 to 4 NU on a farm property in WHPA-B&E, use education and outreach
 - If >4NU on a farm property in WHPA-B&E, use risk management plan.

No change is proposed to the use of the risk management tool in WHPA-A.

Policy O-5-S (c)

The non-legally binding policy part (c) requests municipalities to implement an education and outreach program to encourage transportation businesses (that ship goods through wellhead protection areas and intake protection zones) to prepare spills plans, review annually, and update as required, to protect drinking water sources. The policy implementation challenge is that the message and materials may not be reaching the intended audience, and it is unknown if the transportation businesses are considering drinking water vulnerable areas in their emergency response plans.

Staff propose to direct the policy to the regulatory agencies of the Ministry of Transportation Ontario (MTO) and Transport Canada (TC) rather than municipalities, for effective outreach. MTO and TC can consider emails/mail to company contacts, undertake website updates, guidance document updates, etc. MTO can consider leaving educational materials at truck inspection stations, etc. the proposed revised policy part (c) is provided below.

“To ensure spill prevention plans, contingency plans, and emergency response plans are updated for the purpose of protecting drinking water sources with respect to spills that occur within a wellhead protection area or intake protection zone along highways, railway lines, or shipping lanes, the following policies apply:

c) ~~The municipalities~~ Ministry of Transportation Ontario and Transport Canada are requested to implement an education and outreach program to encourage all transportation businesses that ship goods through wellhead protection areas and intake protection zones to prepare spill prevention plans and spill contingency plans, to review these plans annually, and to update them, as required”.

Policy G-2

SPC Business Report #20-12-03 documents the proposed change to Policy G-2 which was endorsed by the HHSPC in December 2020 and is provided below for information. This addresses a requirement related to policy consistency per the Minister's Section 36 amended Order for the HHSPR.

“In accordance with section 59(1) of the Clean Water Act, 2006, unless identified specifically within a policy, all land uses except solely residential uses, set out within the official plans for the municipalities where this Source Protection Plan is in full force and effect are designated as land uses to which the restricted land uses provisions of the Clean Water Act apply in areas where significant threats may occur.

Despite the above policy, a Risk Management Official may issue written direction specifying the situations under which a planning authority or Chief Building Official may be permitted to make the determination that a site specific land use designation is, or is not, designated for the purposes of Section 59. Where such direction has been issued, a site specific land use that is the subject of an application for approval under the Planning Act or for a permit under the Building Code Act is not designated for the purposes of Section 59, provided that the planning authority or Chief Building Official, as applicable, is satisfied that:

- (a) The application complies with the written direction issued by the Risk Management Official; and,
- (b) The applicant has demonstrated that a significant drinking water threat activity designated for the purposes of Section 57 or 58 will not be engaged in, or will not be affected by the application.

Where the Risk Management Official has provided written direction designating a land use for the purpose of section 59, a written Notice from the Risk Management Official shall be required prior to approval of any Building Permit under the Building Code Act, 1992 as amended, in addition to Planning Act and Condominium Act applications in accordance with Section 59 of the Clean Water Act, 2006”.

Next Steps

Based on discussions of the HHSPC on the proposed policies presented in this report, HHSPR staff will update the source protection plan and explanatory document accordingly. All Section 36 updates will be presented at the next meeting in June 2021. Thereafter, early engagement will begin, after which pre-consultation and consultation stages will occur.

Signed & respectfully submitted:



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Attachments

1. Attachment 1: Overview of Liquid Hydrocarbon Pipeline Regulatory Agencies
2. Attachment 2: Correspondence between Halton-Hamilton Source Protection Region and the Canada Energy Regulator
3. Attachment 3: Summary of Preliminary Feedback on Draft Policies and HHSPR Comments
4. Attachment 4: SPC Business Report #20-12-02 from the December 2020 Halton-Hamilton Source Protection Committee meeting (without its attachments).
5. Attachment 5: Current policy T-52-C/S indicating legal effect of policy parts
6. Attachment 6: Compliance Lists and Legal Effect of Source Protection Plan Policies
7. Attachment 7: Formal Interpretation of the Canada Standards Association (CSA).

Attachment 1: Overview of Liquid Hydrocarbon Pipeline Regulatory Agencies

Regulator	Description
<p>Canada Energy Regulator</p> <p>https://bit.ly/3bw99LH</p>	<p>Regulates the full life cycle of pipeline systems that cross provincial or international boundaries. This includes: design, pre-application, application, construction, operation and abandonment. Pipeline companies are required to have emergency management programs. Works with the Transportation Safety Board. Investigates pipeline incidents to determine whether its regulations have been followed.</p> <p>Regulation and codes include:</p> <ul style="list-style-type: none"> • Canadian Energy Regulator Act - Onshore Pipeline Regulations (SOR/99-294) • Canadian Standards Association (CSA). <p>Per email dated Nov. 26, 2020 to the HHSPR Senior Manager, “the CER requires potential threats to drinking water sources to be considered by our regulated companies, beginning at the applications phase of pipeline construction/planning, through the full lifecycle of the pipeline in the operational and abandonment phase.... When a company applies for approval to construct a pipeline, the company is required to provide the CER with any potential drinking water interactions that may occur during both the construction phase and during the operation phase in the event that a spill could occur. The company’s proposed mitigation is assessed, and should the Commission of the CER deem it to be required, additional conditions may be included as part of the approval itself to provide additional protection measures.... During the operational phase of pipelines, the CER provides specific oversight to potential threats to drinking water sources, such as conducting compliance verification meetings, field inspections and incident reviews”. See Attachment 2.</p>
<p>Canadian Standards Association (CSA)</p>	<ul style="list-style-type: none"> • CSA Z662 “Oil and Gas Pipeline Systems”: design, construction, operation, abandonment, leak detection, safety valve location, integrity management program, high impact/consequence areas, designated geographical area for new pipelines as of June 2019. Additional information from Sarah McQuaig, HHSPC member (Feb. 2021): The standard requires that valves be placed on both sides of the major water crossings and at other locations appropriate for the terrain in order to limit damage from accidental discharge. Based on industry experience, the valves are placed as close as possible, considering geomorphology, power, communication and proximity of other landmarks (houses, roads, floodplains). Some of the other factors considered when selecting valve locations include (but are not limited to): <ul style="list-style-type: none"> ○ Space required for valve site. ○ Terrain restrictions (i.e. does one or both sides of the river abut up to a steep valley slope and therefore no room to place valve right beside water). ○ Outside the high-water mark for the river/water body, ideally out of the flood plain area, but sometimes on flat stretches that is unavoidable. ○ Any ice dam hazards from the river. ○ Ease of access to site in emergency and for routine maintenance.

	<ul style="list-style-type: none"> ○ Cost to get power to the site. ● CSA Z246.2-18 “Emergency Preparedness and Response for Petroleum and Natural Gas Industry Systems”: these require the development of Emergency Planning Zones (EPZs) and consideration of environmentally significant areas. Information from Ryan Shearwater (Shearwater Environmental Emergency Solutions Inc.), Feb. 2021. ● Other CSAs.
<p>Ontario Energy Board https://bit.ly/3pBTn6Z</p>	<p>Regulates pipeline systems located entirely within the province. Governs the construction of new pipelines, conditional upon also meeting the TSSA requirements (see next row). Pipeline operators in Ontario are required to have an integrity management program.</p> <p>Regulations and Codes include:</p> <ul style="list-style-type: none"> ● Oil and Gas Pipeline Systems Code Adoption Document (published by TSSA and adopts national technical standards with some Ontario-specific adjustments) ● CSAs including CSA-Z662, etc. <p>Guidelines include: Environmental Guidelines for Hydrocarbon Pipelines and Facilities in Ontario (2016).</p>
<p>Technical Standards and Safety Authority (TSSA) https://bit.ly/3dIY9x4</p>	<p>Enforces technical standards in Ontario. Audits oil and other types of transmission pipelines and distribution pipelines approximately every five years. Investigates incidents in Ontario as required by regulation (i.e. involving death, injuries, fire, explosion, or substantial damage), and releases a follow-up report. Technical Standards and Safety Act - Ontario Regulation 210/01 “Oil and Gas Pipeline Systems” sets the requirements for the design, operation, maintenance, safety, and integrity of the pipelines. The regulation is supplemented by the Oil and Gas Pipeline Systems Code Adoption Document.</p>
<p>Ministry of the Environment, Conservation and Parks</p>	<p>Through the Ontario Environmental Protection Act Part X “Spills”, requires companies to develop and implement plans to prevent/reduce the risk of spills and remediate any adverse effects from spills.</p>

**Attachment 2: Correspondence between Halton-Hamilton Source Protection Region
and the Canada Energy Regulator**

From: Corinne Kubota <Corinne.Kubota@cer-rec.gc.ca>
Sent: February-19-21 10:44 AM
To: Chitra Gowda <cgowda@hrca.on.ca>; Contact Contact <Contact@cer-rec.gc.ca>
Cc: McQuaig, Sarah <smcquaig@suncor.com>
Subject: RE: Inquiry around consideration of drinking water sources

Dear Ms. Gowda and Ms. McQuaig:

Thanks for your 10 February follow-up to CER's responses of 9 December and 26 November.

I have consulted with CER staff members. It is our understanding that the requirements of clauses 4.3.7.2 to 4.3.7.4 of CSA Z662-19 regarding designated geographical areas (DGAs) are not intended to be applied retroactively to existing installations insofar as design, materials, construction, and established operating pressures are concerned. For additional information please refer to the [Formal Interpretations 2020](#) document that is posted on CSA's website.

You may also choose to follow the instructions below to contact CSA Group directly and submit a request for interpretation of CSA Z662-19 with regards to the applicability of the above clauses to existing pipelines:

Send the following information to inquiries@csagroup.org and include "Request for interpretation" in the subject line:

- a) define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
- b) provide an explanation of circumstances surrounding the actual field condition; and*
- c) where possible, phrase the request in such a way that a specific "yes" or "no" answer will address the issue.*

I hope this information is helpful. If you have any further comments or questions please feel free to email the CER again at contact@cer-rec.gc.ca.

Sincerely,

Corinne
Corinne Kubota
Corinne Kubota (*she/her | elle*)
Correspondence Coordinator | Coordinatrice de la correspondance
Executive Office | Bureau de la direction

Email | Courriel: contact@cer-rec.gc.ca
Suite 210, 517 Tenth Avenue SW, Calgary, Alberta T2R 0A8
517, Dixième Avenue S.-O., bureau 210, Calgary (Alberta) T2R 0A8



Canada Energy
Regulator

Régie de l'énergie
du Canada

From: Chitra Gowda [<mailto:cgowda@hrca.on.ca>]
Sent: Wednesday, February 10, 2021 2:45 PM
To: Contact Contact <Contact@cer-rec.gc.ca>
Cc: Mcquaig, Sarah <smcquaig@suncor.com>
Subject: RE: Inquiry around consideration of drinking water sources

Hi Corrine,
Can you please confirm if the DGAs apply to existing pipelines, or only to future pipelines?
Thanks so much.

Chitra Gowda, MASC., EP
Senior Manager, Watershed Planning and Source Protection
Conservation Halton
2596 Britannia Road West, Burlington, ON L7P 0G3
Mobile: 289-681-8697
cgowda@hrca.on.ca
www.conservationhalton.ca

From: Contact Contact <Contact@cer-rec.gc.ca>
Sent: December-09-20 1:48 PM
To: Contact Contact <Contact@cer-rec.gc.ca>; Chitra Gowda <cgowda@hrca.on.ca>
Cc: Mcquaig, Sarah <smcquaig@suncor.com>
Subject: RE: Inquiry around consideration of drinking water sources

Hi Chitra,

I'm writing with information in answer to your 26 November follow-up email.

I have been informed that the DGA requirements in clauses 4.3.7.2 – 4.3.7.4 of CSA Z662-19 came into effect on 19 June 2019. To obtain this information, it is best to directly contact the pipeline company in question.

I hope that this additional information is helpful to you, but if you have any further comments or questions please feel free to email the CER again at contact@cer-rec.gc.ca.

Sincerely,
Corinne
Corinne Kubota
Correspondence Coordinator | Coordinatrice de la correspondance
Executive Office | Bureau de la direction

Email | Courriel: contact@cer-rec.gc.ca
Suite 210, 517 Tenth Avenue SW, Calgary, Alberta T2R 0A8
517, Dixième Avenue S.-O., bureau 210, Calgary (Alberta) T2R 0A8



Canada Energy
Regulator

Régie de l'énergie
du Canada

From: Contact Contact
Sent: Monday, December 7, 2020 11:03 AM
To: Chitra Gowda <cgowda@hrca.on.ca>; Contact Contact <Contact@cer-rec.gc.ca>
Cc: Mcquaig, Sarah <smcquaig@suncor.com>; INFO INFO <INFO@cer-rec.gc.ca>
Subject: RE: Inquiry around consideration of drinking water sources

Hello Chitra,

I'm writing to acknowledge receipt of your email. Due to a miscommunication, there has been a delay in obtaining the information that you requested. I've been advised that it will be forthcoming soon.

Thank you,
Corinne
Corinne Kubota
Corinne Kubota
Correspondence Coordinator | Coordinatrice de la correspondance
Executive Office | Bureau de la direction

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517, Dixième Avenue S.-O., bureau 210, Calgary (Alberta) T2R 0A8



Canada Energy
Regulator

Régie de l'énergie
du Canada

From: Chitra Gowda [<mailto:cgowda@hrca.on.ca>]
Sent: Thursday, November 26, 2020 12:57 PM
To: Contact Contact <Contact@cer-rec.gc.ca>
Cc: Mcquaig, Sarah <smcquaig@suncor.com>; INFO INFO <INFO@cer-rec.gc.ca>
Subject: RE: Inquiry around consideration of drinking water sources

Corinne,
I sincerely thank you for the detailed information on the consideration of drinking water sources. Are the DGAs publicly available information, or available upon request from CER or the pipeline companies?

Thanks.

Chitra Gowda, MASC., EP
Senior Manager, Watershed Planning and Source Protection
Conservation Halton
2596 Britannia Road West, Burlington, ON L7P 0G3
Mobile: 289-681-8697
cgowda@hrca.on.ca
www.conservationhalton.ca

**DRINKING WATER
SOURCE PROTECTION**
Remembering Walkerton

From: Contact Contact <Contact@cer-rec.gc.ca>

Sent: November-26-20 2:51 PM

To: Chitra Gowda <cgowda@hrca.on.ca>

Cc: McQuaig, Sarah <smcquaig@suncor.com>; INFO INFO <INFO@cer-rec.gc.ca>; Contact Contact <Contact@cer-rec.gc.ca>

Subject: RE: Inquiry around consideration of drinking water sources

Dear Ms. Gowda and Ms. McQuaig:

I am writing in reply to the email you sent on 18 November 2020 to INFO@cer-rec.gc.ca. You provided questions regarding the consideration of drinking water sources in the Canada Energy Regulator's (CER's) oil pipeline assessment process, and I have consulted with staff members in order to provide you with a response.

The CER requires potential threats to drinking water sources to be considered by our regulated companies, beginning at the applications phase of pipeline construction/planning, through the full lifecycle of the pipeline in the operational and abandonment phase.

When a company applies for approval to construct a pipeline, the company is required to provide the CER with any potential drinking water interactions that may occur during both the construction phase and during the operation phase in the event that a spill could occur. The company's proposed mitigation is assessed, and should the Commission of the CER deem it to be required, additional conditions may be included as part of the approval itself to provide additional protection measures.

Companies are also required to comply with the CER's Onshore Pipeline Regulations (OPR), which outlines requirements for their Emergency Response Program, Integrity Management Program, and Environmental Protection Programs. Within the OPR, more prescriptive regulations and guidance are referenced, such as the Canadian Standards Association Z662-19 (CSA Z662-19), the Remediation Process Guide and Incident Reporting Procedure.

CSA Z662-19 requires (Clauses 4.3.7.2 to 4.3.7.4) that for liquid pipelines, companies identify and document designated geographical areas (DGA) in the vicinity of the pipeline. A DGA is a surface water body such as a major drinking water source that could be impacted by a pipeline uncontrolled release incident and as such heightened protection measures may be required. Regulated companies are required to identify pipeline segments where a release could adversely affect a DGA and give consideration to a number of factors including topography, potential pathways, flow characteristics, potential release volume and their emergency response plan including capability and time to respond. Additionally a more conservative safety factor (known as location factor) must be used when designing liquid pipeline segments that can affect a DGA.

During the operational phase of pipelines, the CER provides specific oversight to potential threats to drinking water sources, such as conducting compliance verification meetings, field inspections and incident reviews.

For example, if a reportable spill occurs, an incident report is required to be submitted to the CER by the company immediately or within 24 hours if the spill volume is below the threshold for immediate reporting. The report is reviewed and if needed follow up actions are taken, such as deploying inspection officers to the field and temporarily suspending pipeline operations until the CER is satisfied the pipeline can be operated safely. Any longer term remediation of the impacts of a spill are reported and reviewed by the Remediation Process, which specifically ensures that drinking water is considered, and protected.

I hope this information is helpful. If you have any further comments or questions, please feel free to email the CER at contact@cer-rec.gc.ca.

Sincerely,

Corinne

Corinne Kubota
Correspondence Coordinator | Coordinatrice de la correspondance
Executive Office | Bureau de la direction

Email | Courriel: contact@cer-rec.gc.ca
Suite 210, 517 Tenth Avenue SW, Calgary, Alberta T2R 0A8
517, Dixième Avenue S.-O., bureau 210, Calgary (Alberta) T2R 0A8



Canada Energy
Regulator

Régie de l'énergie
du Canada

From: Chitra Gowda [<mailto:cgowda@hrca.on.ca>]
Sent: Wednesday, November 18, 2020 12:02 PM
To: INFO INFO <INFO@cer-rec.gc.ca>
Cc: Mcquaig, Sarah <smcquaig@suncor.com>
Subject: Inquiry around consideration of drinking water sources

Good afternoon,

I lead local watershed-based programs for protecting sources of drinking water and for watershed planning. Copied here is Sarah McQuaig a Source Protection Committee member representing the industrial-commercial sector of the Halton and Hamilton watersheds in Ontario. This committee is formed under Ontario's Clean Water Act, with the goal of protecting drinking water sources using a watershed approach.

I understand that my predecessor Diane Bloomfield has met with your staff in fall 2018 on a similar matter, and we have the summary of that meeting on hand. They are very useful. We are now in the process of updating local policies that help protect drinking water sources. One of our non-legally binding policies is provided below.

“Canada Energy Regulator and the Ontario Energy Board in their consideration of any liquid hydrocarbon pipeline application where this activity would be a significant drinking water threat are requested to ensure that the applicant has complied with or included appropriate design standards, monitoring, and maintenance practices that when implemented will prevent a pipeline from becoming a significant drinking water threat”.

I hope you can help us with this simple question: are drinking water sources required to be considered through your regulation of the oil pipeline industry, and how is that done? I have also posed this question today to the Ontario Energy Board. Note that the reference to “significant drinking water threat” above in the policy text refers to a risk assessment process that takes place under Ontario’s Clean Water Act, where activities such the establishment and operation of liquid hydrocarbon pipelines are assessed to be no, low, moderate or significant level risks to drinking water sources.

Thank you.

Chitra Gowda, MAsc., EP

Senior Manager, Watershed Planning and Source Protection

Conservation Halton

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Attachment 3: Preliminary Feedback from Pipeline Companies and Staff Comments

Preliminary feedback Jan.-Feb. 2021	Staff comments for consideration by HHSPC
<p>Regulatory aspects Some of the policies are redundant with current regulatory requirements of pipeline companies. The policies would be an administrative burden.</p> <ul style="list-style-type: none"> • Integrity checks are conducted, and reports sent to Canada Energy Regulator (when the liquid hydrocarbon pipeline is regulated by CER). • Safety valves are located per the requirements of the Canadian Energy Regulator Onshore Pipeline Regulations - CSA Z662; align with this CSA. The proposed policy for safety valve locations shouldn't apply to existing valves (i.e. existing valves wouldn't need to be relocated). • Use industry terminology (for example: use "construction" rather than "establishment"). • The moderate and low threat areas are a very large extent to consider for policy implementation. 	<p>Based on the feedback, staff recommend that certain policies be directed to the regulatory agencies: Canada Energy Regulator, Ontario Energy Board and TSSA (rather than the pipeline companies). The goal of those policies is to ensure that drinking water source protection is considered in regulations governing planning, design (including safety valve locations), construction, operation, maintenance, monitoring (including integrity checks/management), abandonment, and related aspects for liquid hydrocarbon pipelines.</p> <p>Feedback on terminology was sent to the MECP in Feb. 2021.</p>
<p>Reporting (monitoring policies) Canada Energy Regulator has dictated who is engaged as a part of the application for new pipelines, changes to content being conveyed, etc. and that should include conservation authorities. Conservation authorities would receive this information.</p> <p>There are concerns around consistency when providing reports to the conservation authorities that are also provided to other regulatory bodies. Canada Energy Regulator can be requested for integrity check reports. Are conservation authorities able to correctly interpret and understand reports developed by teams of pipeline industry experts? What does the conservation authority do with the information?</p>	<p>Conservation Authorities receive varying levels of details from pipeline companies. For example, a proposed pipeline may have an approved Environmental Assessment (EA), while the information about the route and material being conveyed might not be available. In other cases, the company provides details such as the locations of integrity dig checks. Where notified of the need for an EA, the conservation authority provides the applicant with a checklist pertaining to the Conservation Authorities Act and other matters such as natural heritage, groundwater and stormwater management. CAs can request general information (such as new or changing pipeline details) during an annual education outreach session on source water protection, offered by CAs.</p> <p>Staff recommend that monitoring policies be revised to request a simple confirmation of a policy being implemented, rather than the receipt of a pipeline engineering team's technical report. This approach complements policies directed to regulatory agencies who receive the required reports from pipeline companies.</p>
<p>Emergency response planning CSA Z246.2-18 "Emergency Preparedness and Response for Petroleum and Natural Gas Industry Systems": Operators of systems shall identify Emergency Planning Zones (EPZs), which include</p>	<p>The Canada Energy Regulator has clarified that "designated geographical areas" (which consider drinking water source protection and are required per a 2019 update to CSA Z662 "Oil and Gas Pipeline Systems") do not apply to existing pipelines. Staff recommend that a proposed SPP policy to</p>

Preliminary feedback Jan.-Feb. 2021	Staff comments for consideration by HHSPC
<p>consequence criteria such as population density and high-density buildings. This CSA also recommends that mapping include EPZs and environmentally sensitive areas including water bodies. Information from consultant Ryan Shearwater (Shearwater Environmental Emergency Solutions Inc.), via email to Senior Manager Chitra Gowda, Feb. 2021.</p>	<p>utilise watershed characteristics and threats risk assessments of the assessment reports, include mention of “Emergency Planning Zones” (EPZs), besides designated geographical areas. It is assumed that high impact/consequence areas fall under EPZs.</p> <p>Staff also recommend that the Conservation Authorities engage stakeholders and enhance awareness about drinking water source protection by offering annual virtual sessions to the pipeline companies.</p>
<p>Overarching consistency There should be consistency in SPP policies across Ontario, as many pipelines cross watershed boundaries. HHSPR is requested to bring together relevant pipeline companies for discussions at one table.</p>	<p>Staff will facilitate discussions around policy consistency by hosting a virtual meeting for relevant pipeline companies and neighbouring source protection regions/areas during the Section 36 pre-consultation stage.</p>

Attachment 4: Excerpts from SPC Business Report #20-12-02 (December 2020)

Risk Assessment using an Event-Based Approach

The HHSPC identified oil pipeline threats by an event-based area approach to risk assessment that involved the modelling of spill scenarios from an oil pipeline rupture scenario.

This approach gained approval from the Ministry of Environment in 2011, per Appendix F in the Halton Region Assessment Report available at: <https://bit.ly/3nNr6Ke>. As noted in that appendix, the circumstances of occurrence at that time were: the conveyance of oil by way of a pipeline (designated as transmitting or distributing “liquid hydrocarbons”) that crosses a body of open water. The letter defines “liquid hydrocarbons” as including crude oil, condensate, or liquid petroleum products, and not including natural gas liquids or liquefied petroleum gas, within the meaning of the Ontario Regulation 210/01 under the Technical Standards and Safety Act, or subject to the National Energy Board Act (now called the Canadian Energy Regulator Act).

Through this approach, two existing significant drinking water threats were identified. They are located about two kilometres from the Lake Ontario shore, at Sixteen Mile Creek and Joshua’s Creek in the Halton Region Source Protection Area.

Risk Assessment using the Table of Drinking Water Threats

In July 2018, the “establishment and operation of a liquid hydrocarbon pipeline” was added as a prescribed drinking water threat through an amendment made to the General Regulation (O. Reg. 287/07) under the *Clean Water Act* to consistently require the assessment of risk that liquid hydrocarbon pipelines pose to sources of drinking water across all source protection areas.

This new prescribed threat captures pipelines designated for transmitting or distributing liquid hydrocarbons to terminals and distribution centers; it does not capture pipelines that move liquefied natural gas or liquid petroleum gas. It also does not capture pipelines operated by the Ministry of Natural Resources and Forestry (MNRF) as defined in the Oil, Gas and Salt Resources Act, or those that operate within a property such as a refinery. Pipelines that convey liquid fuel within a single property would fall under the prescribed threat ‘handling and storage of fuel.’

Note that the proposed changes to the Technical Rules defines “liquid hydrocarbon” as a mixture containing hydrogen and carbon and is liquid at the temperature and pressure under which its volume is measured or estimated. The proposed changes are part of a public consultation that was completed in November 2020, and staff are waiting for the finalized Technical Rules from MECP.

As a result of the regulatory changes in 2018, in the current round of source protection plan updates these pipelines will now be considered significant, moderate or low threats to

drinking water in certain vulnerable areas under the Technical Rules, and as determined in the provincial Table of Drinking Water Threats, available at: <https://swpip.ca/>.

The outcomes of the threats risk assessment undertaken in summer 2020 are available in the SPC Report #20-09-04. The new circumstances of occurrence include the following, for specified chemicals in any quantity:

- pipelines above ground or above a water
- pipelines below ground and not crossing underneath a water body
- pipelines within or under a water body.

The specified chemicals of concern, that could be released to water due to a rupture of a liquid hydrocarbon pipeline, are any quantity of: benzene, toluene, ethylbenzene, and xylene (collectively known as BTEX), and petroleum hydrocarbons F1 (nC6-nC10), F2 (>nC10-nC16), F3 (>nC16-nC34), F4 (>nC34).

Overall Risk Assessment Summary

The Table below presents a summary of both the event-based (modelling) and threats risk assessments of liquid hydrocarbon pipelines in the HHSPR.

Summary of Risk Assessments of Liquid Hydrocarbon Pipelines in the Halton-Hamilton Source Protection Region

Threats Assessment	Risk Level	Vulnerable Area, Vulnerability Score	Existing Pipelines
Event-based modeling <i>(approved in 2015)</i>	Significant	<ul style="list-style-type: none"> • IPZ-3, no score 	There are two existing locations where liquid hydrocarbon pipelines cross water bodies in IPZ-3s, confirmed in the first round of planning.
Threats tables <i>(ongoing source protection plan updates, yet to be approved)</i>	Significant	<ul style="list-style-type: none"> • WHPA-A & B, score 10 • WHPA-E (Carlisle), score 9 	There are no known existing liquid hydrocarbon pipelines that cross WHPAs. There are multiple existing liquid hydrocarbon pipelines that cross IPZs and HVAs. SGRAs are not considered in the threats assessment per the <i>Clean Water Act</i> .
	Moderate	<ul style="list-style-type: none"> • IPZ-1, score 7 • WHPA-A & B, score 10 • WHPA-B & C, score 8 • WHPA-E (Carlisle), score 9 & 8.1 	
	Low	<ul style="list-style-type: none"> • IPZ-1, score 7 & 6 • IPZ-2, score 6.3 & 5.4 • WHPA-B, C & D, score 6 • WHPA-E (Carlisle), score 9 & 8.1 • HVAs, score 6 (all). 	

Table a: Draft Revised Policy L-1-S proposed to be renumbered to T-60-S

Policy Text	Policy Tool	Legal Effect	Implementor	Policy Applicability
<p>Current Policy L-1-S Where the conveyance of oil in pipelines across open water bodies is an existing significant threat to lake-based drinking water sources,</p> <p>a) fuel pipeline owners are recommended to conduct inline pipeline integrity testing and visual inspections of pipeline crossings at open water bodies at a frequent timing of every three years.</p> <p>b) the Source Protection Department of the Conservation Authorities shall consult with fuel pipeline owners to determine if pipeline integrity testing and visual inspections have occurred and to request a report on the findings of the testing and inspections, and actions taken.</p>	<p>(not specified)</p>	<p>a) List K - non legally binding.</p> <p>b) List F - legally binding monitoring policy.</p>	<p>a) Pipeline owners</p> <p>b) CA</p>	<ul style="list-style-type: none"> • Significant threats of pipelines crossing open water bodies • Existing • IPZ-3 (event-based)
<p>Draft Revised Policy T-60-S Where the <u>establishment and operation of a liquid hydrocarbon pipeline</u> is an existing <u>or future</u> significant threat to drinking water sources,</p> <p>a) liquid hydrocarbon pipeline owners are recommended to consider factors including age and condition of the pipeline, to <u>determine the frequency</u> to conduct inline pipeline integrity testing and visual inspections of pipelines to ensure protection of drinking water sources.</p> <p>b) liquid hydrocarbon pipeline owners are recommended to provide to the applicable Conservation Authorities upon their request a report on the findings of the testing and inspections, and actions taken, and <u>response to incidents</u> impacting drinking water sources.</p>	<p>Specify Action</p>	<p>a) Same as current.</p> <p>b) List - to be determined; non-legally binding.</p>	<p>c) Same as current</p> <p>d) Pipeline owners</p>	<ul style="list-style-type: none"> • Significant threats of pipelines above ground, below ground, within or under a water body • Existing and future • Event-based IPZ-3, WHPAs

Rationale and Discussion

Rationale: The revisions reflect SPC discussions that the 3-year frequency may not be appropriate, given information from Canada Energy Regulator (CER). Feedback on the draft revised policy was obtained from the HHSPC industrial-commercial sector rep who is employed by one of the four liquid hydrocarbon pipeline companies operating in the HHSPR, as well as municipal staff. Pipeline companies have integrity programs. The frequency of inspections depends on factors such as the technology used, the history of releases, the age of the pipeline. Where inline testing is not possible, other tests are done. Integrity digs are required to confirm the corrosion impacts. <https://www.nrcan.gc.ca/our-natural-resources/energy-sources-distribution/clean-fossil-fuels/pipelines/fags-federally-regulated-petroleum-pipelines-canada/5893#h-3-4>

Incidents are reported on the CER website. Events per company can be checked on the CER Safety Performance Dashboard link below. Events include the number of incidents that harmed people or the environment. <https://www.cer-rec.gc.ca/en/safety-environment/industry-performance/safety-performance-dashboard/index.html>

Discussion: Should the policy apply to significant, moderate, low threats (existing and future) rather than just significant threats (existing)? Cataraqui SPC proposes to apply to all. Also, monitoring policies are legally binding if implemented by the CA, and non-legally binding if implemented by CER/OEB. Should implementation of part (b) continue to reside with the CA? Generally, other SPCs are directing the companies to implement monitoring policies.

Table b: Draft Revised Policy L-2-S proposed to be renumbered to T-61-S

Policy Text	Policy Tool	Legal Effect	Implementor	Policy Applicability
<p>Current Policy L-2-S To reduce the risks to drinking water sources from the construction of pipelines conveying oil across open water bodies,</p> <p>a) the National Energy Board and the Ontario Energy Board in their consideration of any oil pipeline application where this activity would be a significant drinking water threat are requested to ensure that the applicant has complied with or included appropriate design standards, monitoring, and maintenance practices that when implemented will prevent a pipeline from becoming a significant drinking water threat.</p> <p>b) the Source Protection Department of the Halton Region and Hamilton Conservation Authorities shall consult with the National Energy Board and the Ontario Energy Board to determine if pipeline design standards and the requirements for monitoring and maintenance practices in vulnerable areas consider drinking water source protection.</p>	<i>(not specified)</i>	<p>c) List K (significant threat) - non legally binding.</p> <p>d) List F - legally binding monitoring policy.</p>	<p>a) NEB (now CER)* and OEB</p> <p>b) CA</p>	<ul style="list-style-type: none"> Significant threats of pipelines crossing open water bodies Existing IPZ-3 (event-based)
<p>Draft Revised Policy T-61-S To reduce the risks to drinking water sources from the establishment and operation of a liquid hydrocarbon pipeline,</p> <p>c) Ontario Energy Board in their consideration of any liquid hydrocarbon pipeline application where this activity would be a significant drinking water threat are requested to ensure that the applicant has complied with or included appropriate design standards, monitoring, and maintenance practices that when implemented will prevent a pipeline from becoming a significant drinking water threat</p> <p>d) <u>liquid hydrocarbon pipeline owners are recommended to utilise local watershed-based scientific assessment reports including drinking water vulnerable areas developed under the Clean Water Act, 2006 while determining designated geographical areas (DGAs) and high consequence areas (HCAs)</u></p> <p>e) <u>the Ontario Energy Board is requested to provide information to the applicable Conservation Authorities to confirm that pipeline design standards and the requirements for monitoring and maintenance practices in vulnerable areas.</u></p> <p>f) <u>liquid hydrocarbon pipeline owners are recommended to report to the applicable CAs on how assessment report science is incorporated in DGAs and HCAs.</u></p>	Specify Action	<p>a) Same as current.</p> <p>b) List K - non legally binding.</p> <p>c) List - to be determined; non-legally binding.</p> <p>d) List - to be determined; non-legally binding.</p>	<p>a) Same as current</p> <p>b) Pipeline owners</p> <p>c) CER and OEB</p> <p>d) Pipeline owners</p>	<ul style="list-style-type: none"> Significant threats of pipelines above ground, below ground, within or under a water body Existing and future Event-based IPZ-3, WHPAs

Rationale and Discussion

Rationale: Staff requested the Canada Energy Regulator (CER) and the Ontario Energy Board to confirm whether and how design standards, monitoring and maintenance practices consider source water protection such that pipelines do not become significant threats. See the CER response and additional staff research below. Staff suggest that this policy be revised/have a separate policy to recommend that companies use assessment reports (including drinking water vulnerable areas) while determining DGAs and HCAs.

Discussion: Should the policy apply to S, M, L threats rather than just S threats? South Georgian Bay-Lake Simcoe SPC proposes to apply to S threats only. Also, monitoring policies are legally binding if implemented by the CA, and non-legally binding if implemented by CER/OEB. Should implementation of part (b) continue to reside with the CA?

Table c: Draft Revised Policy T-52-S

Policy Text	Policy Tool	Legal Effect	Implementor	Policy Applicability
<p>Current Policy T-52-S Where discharges from sewage treatment plants, the handling and storage of fuel, and the conveyance of oil in a pipeline that crosses an open body of water are existing significant drinking water threats to Lake Ontario municipal intakes,</p> <p>a) the Ministry of the Environment and Climate Change shall provide mapping of intake protection zones three and the locations of known significant threats to the Spills Action Centre, and if necessary modify procedures to ensure that the operators of all water treatment plants that could be affected by a spill are notified.</p> <p>e) the owners of facilities where these significant drinking water threats have been identified are requested to update emergency preparedness/contingency plans to include the location of municipal intakes, actions to be taken to protect drinking water sources should an incident occur, and the requirement for inclusion of the protection of drinking water sources in emergency preparedness exercises.</p>		<p>a) List K (significant threat) - non legally binding. c) List K - non-legally binding.</p>	<p>a) MOE b) Owners of facilities</p>	<ul style="list-style-type: none"> • Significant threats of pipelines crossing open water bodies • Existing • IPZ-3 (event-based)
<p>Draft Revised Policy T-52-S Where discharges from sewage treatment plants, and the handling and storage of fuel are existing significant drinking water threats to Lake Ontario municipal intakes, <u>and where the establishment and operation of a liquid hydrocarbon pipeline is a low, moderate or significant threat to drinking water sources,</u></p> <p>a) the <u>Ministry of the Environment, Conservation and Parks</u> shall provide mapping of <u>intake protection zones, locations of known significant threats, wellhead protection areas and highly vulnerable aquifers</u> to the Spills Action Centre, and if necessary modify procedures to ensure that the operators of all water treatment plants that could be affected by a spill are notified.</p> <p>c) the owners of facilities where these <u>drinking water threats</u> have been identified are requested to update emergency preparedness/ contingency plans to include the location of municipal intakes <u>and wells</u>, actions to be taken to protect drinking water sources should an incident occur, and the requirement for inclusion of the protection of drinking water sources in emergency preparedness exercises.</p>	Specify Action (significant), Strategic action (moderate, low threats)	<p>a) List K (significant threat) & List J (low, moderate)- non legally binding. b) Lists K & J - non legally binding.</p>	<p>a) Same as current b) Same as current</p>	<ul style="list-style-type: none"> • Low, moderate or significant threats of pipelines above ground, below ground, within or under a water body • Existing • IPZs, WHPAs, HVAs
Rationale and Discussion				
Discussion: Should the policy apply to S, M, L threats? This broad application (S, M, L threats) is being proposed at the TCC and Catarauqui SPCs.				

Table d: Draft New Policy T-62-S

Policy Text	Policy Tool	Legal Effect	Implementor	Policy Applicability
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<p>Draft NEW Policy T-62-S Where the establishment and operation of a liquid hydrocarbon pipeline is an existing or future low, moderate or significant threat to drinking water sources,</p> <p>a) liquid hydrocarbon pipeline owners are recommended to consider the location of drinking water vulnerable areas and other watercourses and the areas around them while determining the <u>location of safety valves</u>, to ensure the protection of drinking water sources.</p> <p>b) within sixty days of installing or replacing a safety valve, liquid hydrocarbon pipeline owners are recommended to <u>provide a report</u> to the applicable Conservation Authorities that describes how the protection of drinking water sources was considered in determining the location of safety valves.</p>	<p>Specify Action (significant), Strategic action (moderate, low threats)</p>	<p>a) List K (significant threat) and List J (low, moderate) - non legally binding. b) List - to be determined; non-legally binding.</p>	<p>a) Pipeline owners b) Pipeline owners</p>	<ul style="list-style-type: none"> • Low, moderate or significant threats of pipelines above ground, below ground, within or under a water body • Existing or future • IPZs, WHPAs, HVAs
Rationale and Discussion				
<p>Rationale: The HHSPC discussed that the pipeline companies should give due consideration to watercourses and the areas around them and drinking water vulnerable areas, while locating safety valves. This proposed new policy aims to address that.</p> <p>Discussion: Should the policy apply to S, M, L threats? Municipal staff suggest that the policy specify locations e.g.: locate new safety valves outside of drinking water vulnerable areas. HHSPR staff suggest that wording for a “setback” for new safety valves from water bodies and WHPA-A be included. Also, monitoring policies are legally binding if implemented by the CA, and non-legally binding if implemented by the companies. Should implementation of part (b) reside with the CA?</p>				

Table e: Draft New Policy T-63-S

Policy Text	Policy Tool	Legal Effect	Implementor	Policy Applicability
<p>Draft NEW Policy T-63-S Where the establishment and operation of a liquid hydrocarbon pipeline is or could be a significant threat to drinking water sources,</p> <ul style="list-style-type: none"> a) liquid hydrocarbon pipeline owners are recommended to post sufficient pipeline identification signage that is visibly noticeable. Also, ‘do not anchor’ signs are recommended to be posted when a navigable waterway has a pipeline submerged in the area. b) liquid hydrocarbon pipeline owners are recommended to include the applicable conservation authority in the consultation process and give them the opportunity to provide feedback for new pipelines, changes to a pipeline or change in material being transported in a pipeline; and be to advise them of any abandonment or change of use of any pipelines. c) conservation authorities are to provide to pipeline owners, information on watershed characteristics (such as flow rate, flood and erosion hazards), flood warnings and statements and other local data for the purposes of source water protection, if available and as requested by the pipeline. 	Specify Action (significant threats)	<ul style="list-style-type: none"> a) List K (significant threat) - non legally binding. b) List K (significant threat) - non legally binding. c) List E (significant threat) - legally binding policy. 	<ul style="list-style-type: none"> a) Pipeline owners b) Pipeline owners c) CAs 	<ul style="list-style-type: none"> • Significant threats of pipelines above ground, below ground, within or under a water body • Existing or future • Event-based IPZ-3s, WHPAs

Rationale and Discussion

Rationale: HHSPC suggests that consideration of these draft policies discussed at the TCC SPC.
Discussion: Should the policy apply to S, M, L threats rather than just S threats? TCC SPC is discussing it for significant risk levels only. Should part b have a timeline - TCC: provide an annual report on actions taken to satisfy the SPP; Cataraqui (for other policies): notify CA within 60 days.

Attachment 5: Current Policy T-52-C/S and Legal effect of Policy Parts

Policy part	Legal Effect	Policy
T-52 C/S overarching policy text		Where discharges from sewage treatment plants, the handling and storage of fuel, and the conveyance of oil in a pipeline that crosses an open body of water are existing significant drinking water threats to Lake Ontario municipal intakes,
T-52-S parts a & c	K - Non legally binding Significant threat policies to be implemented by stakeholders other than municipalities, local boards, or source protection authorities *industries	a) the Ministry of the Environment and Climate Change shall provide mapping of intake protection zones three and the locations of known significant threats to the Spills Action Centre, and if necessary modify procedures to ensure that the operators of all water treatment plants that could be affected by a spill are notified. c) the owners of facilities* where these significant drinking water threats have been identified are requested to update emergency preparedness/contingency plans to include the location of municipal intakes, actions to be taken to protect drinking water sources should an incident occur, and the requirement for inclusion of the protection of drinking water sources in emergency preparedness exercises.
T-52-C part b	C - Legally binding - must conform with Significant threat policies that affect prescribed instrument decisions	b) the Ministry of the Environment and Climate Change shall ensure that the environmental compliance approvals that govern the sewage works include appropriate terms and conditions to ensure that the systems do not become significant drinking water threats. As part of its program to review environmental compliance approvals that are affected by source protection plans and in consultation with the municipalities responsible for water services the following conditions shall be considered for inclusion - adjustment of the reporting thresholds for pathogens and chemicals of concern in effluent.
T-52-C part c	E - Legally binding - must comply with Significant threat policies that impose obligations on municipalities, source protection authorities and local boards **municipalities	c) the owners of facilities** where these significant drinking water threats have been identified are requested to update emergency preparedness/contingency plans to include the location of municipal intakes, actions to be taken to protect drinking water sources should an incident occur, and the requirement for inclusion of the protection of drinking water sources in emergency preparedness exercises.
T-52-C parts d & e	F - Legally binding - must comply with Monitoring policies	d) by February 1 of each year, the Ministry of the Environment and Climate Change shall prepare and submit to the Source Protection Authority a report summarizing their actions for the

Policy part	Legal Effect	Policy
	referred to in subsection 22 (2) of the <i>Clean Water Act, 2006</i>	<p>previous year, including the number, type, and location of spills reported within intake protection zones three, adjusted thresholds, and actions taken or recommended to improve the efficiency and effectiveness of the spill reporting system.</p> <p>e) the Source Protection Department of the Halton Region and Hamilton Region Conservation Authorities shall consult with the owners of facilities where these significant drinking water threats have been identified to request an invitation to observe the emergency preparedness exercises carried out in the vicinity of the Halton-Hamilton Source Protection Region, and to request to view a copy of the emergency preparedness plans when amended.</p>

Attachment 6: Compliance Lists and Legal Effect of Source Protection Plan Policies

List	Title	Legal Effect
A	Significant threat policies that affect decisions under the Planning Act and Condominium Act, 1998	Legally binding - must conform with
B	Moderate and low threat policies that affect decisions under the <i>Planning Act</i> and <i>Condominium Act, 1998</i>	Legally binding - have regard to
C	Significant threat policies that affect prescribed instrument decisions	Legally binding - must conform with
D	Moderate and low threat policies that affect prescribed instrument decisions	Legally binding - have regard to
E	Significant threat policies that impose obligations on municipalities, source protection authorities and local boards	Legally binding - must comply with
F	Monitoring policies referred to in subsection 22 (2) of the <i>Clean Water Act, 2006</i>	Legally binding - must comply with
G	Policies related to section 57 of the <i>Clean Water Act, 2006</i>	Legally binding - must comply with
H	Policies related to section 58 of the <i>Clean Water Act, 2006</i>	Legally binding - must comply with
I	Policies related to section 59 of the <i>Clean Water Act, 2006</i>	Legally binding - must comply with
J	Strategic action policies	Non legally binding
K	Significant threat policies to be implemented by stakeholders other than municipalities, local boards, or source protection authorities	Non legally binding



Formal Interpretations/ Interprétation formelle

This section lists questions that individuals have submitted about a particular standard. Each question has been reviewed and answered by the appropriate committee. If you would like to submit a question about a particular standard, please see the end notes in the preface of that standard.

Posted Dec 24, 2020

The following interpretation regarding Rule 4-006 1 of CSA Code C22.1-18, Canadian Electrical Code, Part I, has been approved by the Members of the CSA Standards Technical Committee on *Canadian Electrical Code, Part I*.

Question: In accordance with the new note in Table 5A, “** The insulation temperature rating is the temperature marked on the conductor”, if a circuit breaker rated with a maximum conductor termination of 75 °C has TECK 90 connected to it to feed a piece of equipment that is marked with a maximum conductor termination of 75 °C, yet partway through the cable run, the TECK 90 goes through an area with an ambient exceeding 30 °C, would we use the 90 °C column of Table 5A so long as the high ambient area is more than 1.2 m away from the equipment in accordance with Rules 4-006 1) and 4)?

Answer: Yes.

The following interpretation regarding Rule 4-024 and 4-032 of CSA Code C22.1-18, Canadian Electrical Code, Part I, has been approved by the Members of the CSA Standards Technical Committee on *Canadian Electrical Code, Part I*.

Question: Do Rules 4-024 and 4-032 mandate that insulated conductors coloured white or grey shall only be used as a neutral conductor or an identified conductor?

Answer: Yes.

The following interpretation regarding Rule 8-304 1) of CSA Code C22.1-18, Canadian Electrical Code, Part I, has been approved by the Members of the CSA Standards Technical Committee on *Canadian Electrical Code, Part I*.

Question: For the application of Rule 8-304 1), is a duplex receptacle considered as one outlet?

Answer: Yes.

Question: For the application of Rule 8-304 1), is a quadruplex receptacle considered as one outlet?

Answer: Yes.

The following interpretation regarding Rule 24-104 8) of CSA Code C22.1-18, Canadian Electrical Code, Part I, has been approved by the Members of the CSA Standards Technical Committee on *Canadian Electrical Code, Part I*.



Question: In accordance with the literal text of Rule 24-104 8), and in accordance with the Appendix B Note on this Subrule, is a metal sink located in a patient care environment required to be bonded to ground?

Answer: No.

The following interpretation regarding Rule 36-204 of CSA Code C22.1-18, Canadian Electrical Code, Part I, has been approved by the Members of the CSA Standards Technical Committee on *Canadian Electrical Code, Part I*.

Question: Would a 66 kV load-break rated circuit switcher and associated protection relays be considered as a breaker/overcurrent protection to comply with Rule 36-204?

Answer: No.

The following interpretation regarding Rule 42-004 CSA Code C22.1-18, Canadian Electrical Code, Part I, has been approved by the Members of the CSA Standards Technical Committee on *Canadian Electrical Code, Part I*.

Question: In accordance with Rule 42-004, is it permissible to install an overcurrent device with a rating or setting larger than the rating of the receptacle if the rating or type of the welder is unknown, provided that the overcurrent rating or setting adequately protects the conductors supplying the receptacle?

Answer: No.

The following interpretation regarding Rule 64-222 1) CSA Code C22.1-18, Canadian Electrical Code, Part I, has been approved by the Members of the CSA Standards Technical Committee on *Canadian Electrical Code, Part I*.

Question: If a racking system approved for use in Canada utilizes integrated bonding in its components in conjunction with modules approved for use with that racking system, would this be an acceptable means of bonding to ground as required by Rule 64-222 1)?

Answer: Yes.

The following interpretation regarding Rule 64-222 4) CSA Code C22.1-18, Canadian Electrical Code, Part I, has been approved by the Members of the CSA Standards Technical Committee on *Canadian Electrical Code, Part I*.

Question: In Rule 64-222 4), does the phrase “removal of a photovoltaic module” refer to a single photovoltaic module only?

Answer: Yes.

Posted Dec 2, 2020

The following interpretation regarding Clause 4 of CSA Standard Z662-19, Oil and gas pipeline systems, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

Question 1: If a system is designed to ASME B31.3, per CSA Z662:19 Clauses 4.14.2.11 c) or 4.14.3.8 d), would the requirements of CSA Z662:19, Clauses 4.3.16 through 4.3.20 be applicable?

Answer 1: No

Question 2: Under 4.3.12.2 Is MSS-SP97 Integrally Reinforced Forged Branch Outlet Fittings—Socket Welding, Threaded and Buttwelding Ends considered an applicable component standard?

Answer 2: Yes

Question 3: Under 4.3.18 b), does the term “welding outlet fitting type” include fittings manufactured to MSS-SP97 Integrally Reinforced Forged Branch Outlet Fittings—Socket Welding, Threaded and Buttwelding Ends?

Answer 3: Yes

Question 4: Where permitted by Clause 4.3.18, can Clause 4.3.19 be used to establish the adequacy of the design for welding outlet fittings?

Answer 4: Yes

Question 5: CSA Z662:19, Clause 4.3.19, does not explicitly allow for proof testing as a viable option for determining the adequacy of the design of a branch connection. If a fitting is ordered to be in accordance with MSS SP-97 where the adequacy of the design is established by proof testing, are the calculations in CSA Z662:19, Clause 4.3.19 mandatory?

Answer 5: No

The following interpretation regarding Clauses 10.7.1, and 10.11.3 of CSA Standard Z662-19, Oil and gas pipeline systems, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

Example scenario:

A pipeline is constructed to an earlier edition of CSA Z662 (e.g. 2015) and requires permanent repair work per 10.11.3 (piping replacement). The class location designation, as assessed per Clause 10.7.1, has not changed since the 2019 edition has been released. The repaired sections of pipeline have also not been upgraded (had an increase in MOP) per clause 10.3.8, nor had a new crossing per 10.8.1.

Question 1: Does the design thickness calculation have to use class location factors and/or designations as determined by the 2019 edition?

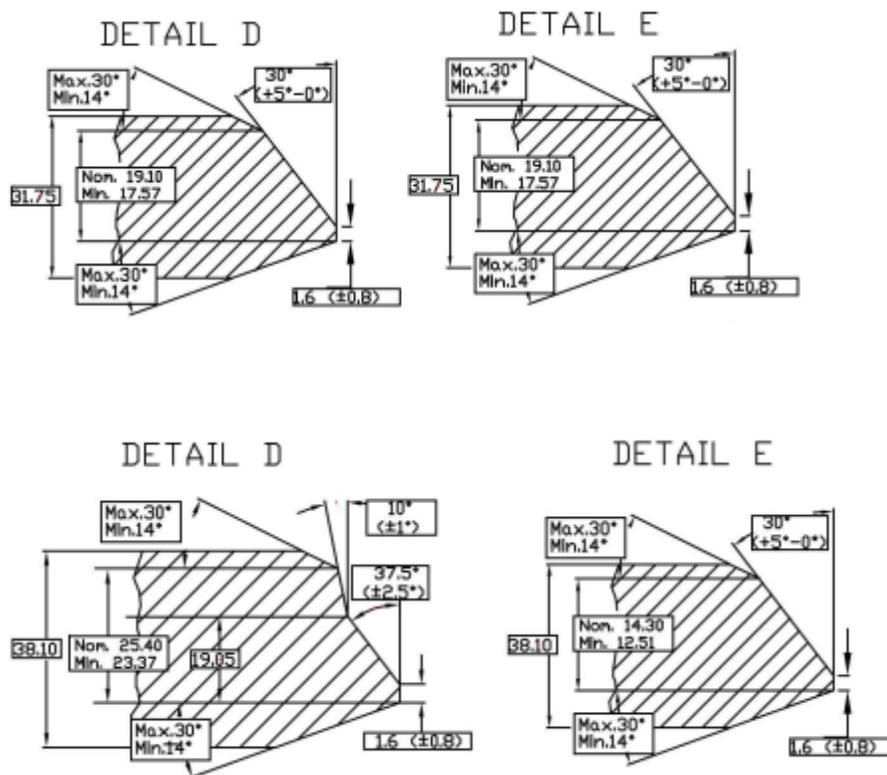
Answer 1: No, provided the class location designation has not changed.

Question 2: Does the design thickness calculation have to consider DGA's as per Clauses 4.3.7.2 to 4.3.7.4?

Answer 2: No

The following interpretation regarding Clause 7.9.15.2 of CSA Standard Z662-19, Oil and gas pipeline systems, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

NPS 36 and NPS 42 x 18, CSA Z245.11 Grade 483, Barred Tee, BW ends are being supplied by the manufacturer in quenched and tempered followed by PWHT condition (i.e., PWHT is completed after welding the scraper bars in Q&T tee) as per CSA Z245.11 clause 6.5.4 (b). These tees are fabricated from plates and are to be welded with CSA Z245.1 Grade 483 HQ (quench and tempered) pipe with nominal thickness of 22.1mm. The thicknesses of tees are 31.75mm and 38.1mm with a nominal thickness as shown below:



‘Detail D’ is for straight run end and ‘Detail E’ is for branch end

The tees are to be installed in Category II natural gas pipeline with MDMT -45 degree Celsius.

Question: Does Clause 7.9.15.2, mandate stress relieving for the girth welds between the above described pipe and tees to be completed at field using welding produce qualified under CSA Z662?

Answer: No

The following interpretation regarding Clause 10.11.4.3 a) i) of CSA Standard Z662-19, Oil and gas pipeline systems, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

Question: As stated in Clause 10.11.4.3 a) i), the sleeve system shall indicate an extrapolated sleeve system rated performance of at least 50 years. Given this requirement, does CSA consider 1000-hour survival testing as stated in Annex E.2.1 of ISO 24817, and Appendix V-2.1 of ASME PCC-2 Article 4.1, as adequate for determining long-term strains for the repair over a 50 year performance lifetime?

Answer: No

The following interpretation regarding Clauses 13.1.8.1, 13.1.8.4, and 13.1.8.5 of CSA Standard Z662-19, Oil and gas pipeline systems, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

Question 1: Does a liquid test consisting of a 4 hour strength test at 1.25 x intended maximum operating pressure (MOP) followed by a 4 hour leak test at 1.1 x intended MOP, completed after test pressure stabilization, satisfy the requirements CSA Z662-19 Clauses 13.1.8.1, 13.1.8.4, and 13.1.8.5 such that the system can be assigned the intended MOP.?

Answer 1: No, the minimum test pressure for the concurrent test is 1.25 times the intended maximum operating pressure for 8 hours, per Clause 13.1.8.4 and 13.1.8.5

Question 2: If the answer to Question 1 is “No”, would the test described in Question 1 satisfy the requirements of CSA Z662-19 Clauses 13.1.8.1, 13.1.8.4, and 13.1.8.5 such that the system can be assigned a MOP that is 80% of the lowest test pressure obtained during the 8 hr test period specified in Clause 13.1.8.5 for a liquid test

Answer 2: Yes, provided that the requirements of Clause 13.1.9.1 are met.

The following interpretation regarding Clause 1.2 of CSA Standard Z245.20-18, Plant-applied external fusion bond epoxy coating for steel pipe, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

Question: Is any Z245.20 FBE coating system still considered a Z245.20 coating, if a Fusion Bond Polyester (FBP) UV protection topcoat is applied?

Answer: No

The following interpretation regarding Clause 6.1.1 of CSA Standard Z245.22-18, Plant-applied external polyurethane foam insulation coating for steel pipe, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.



Question: Does “manufacturer” in Clause 6.1.1 a) refer to the manufacturer of the foam insulation materials?

Answer: Yes, the chemical manufacturer of each component, polyol, isocyanate and blowing agent.

The following interpretation regarding Clauses 6.1.2.5.1 e) and 6.1.2.5.5 e) of CSA Standard Z245.30-18, Field-applied external coatings for steel pipeline systems, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

Question: If an applicator was qualified to the 2014 edition, and does not require re-qualification per Clause 6.1.2.6, is it expected that a new qualification certificate be issued?

Answer: No

The following interpretation regarding Clause 7.5.4.1 of CSA Standard Z245.30-18, Field-applied external coatings for steel pipeline systems, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

Question 1: Clause 7.5.4.1, Holiday inspection – General. For new construction, is the use of a holiday detector on 100% of the coated surface of the pipe required?

Answer 1: Yes

Question 2: Does “existing pipe” refer to pipe already in-service?

Answer 2: Yes

Question: Is 100% holiday detection required on coating applied on a pipe replacement section, where possible?

Answer: Yes

The following interpretation regarding Clause 4.14.2.1 of CSA Standard Z662-19, Oil and gas pipeline systems, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

Clause 4.14.2.1 refers to individual “engine catwalks”. We seek the following clarification with respect to that term:

Question 1a: CSA Z662 offers no definition of “engine catwalk”. Is it correct to interpret that it is at the design engineer’s discretion how this definition is applied?

Answer 1a: Yes, see Clause 1.4

Question 1b: Does the term “engine catwalks” include catwalks providing access to all integral engine components, therefore two exits are not required?



Answer 1b: See answer to 1a

Question 1c: Does “engine catwalks” include catwalks providing access to the engine air intake for the main compressor driver, therefore two exits are not required?

Answer 1c: See answer to 1a

Question 1d: Does “engine catwalks” include catwalks providing access to the engine exhaust for the main compressor driver, therefore two exits are not required?

Answer 1d: See answer to 1a

Question 1e: Does “engine catwalks” include catwalks providing access to motors driving fans associated with building ventilation, therefore two exits are not required?

Answer 1e: See answer to 1a

Question 1f: Does “engine catwalks” include catwalks providing access to motors driving fans associated with heat exchanger equipment, therefore two exits are not required?

Answer 1f: See answer to 1a

Question 1g: Does “engine catwalks” include catwalks providing access to overhead cranes that service the main compressor driver, therefore two exits are not required?

Answer 1g: See answer to 1a

Clause 4.14.2.1 refers to “operating floor”. We seek the following clarification with respect to that term:

Question 2a: CSA Z662 offers no definition of “operating floor”. Is it correct to interpret that it is at the design engineer’s discretion how this definition is applied?

Answer 2a: Yes, see Clause 1.4

Question 2b: Is the term “operating floor” only applicable to the main floor area of a compressor building?

Answer 2b: No

Question 2c: Is the term “operating floor” only applicable to the situation when the compressor is in operating mode?

Answer 2c: No

Question 2d: For the purpose of “two exits” in design, does the term “operating floor” include catwalks designed to access specific elevated equipment for periodic maintenance purposes only?

Answer 2d: No

Clause 4.14.2.1 refers to “...elevated walkways or platforms 3m or more above ground...” We seek the following clarification with respect to that phrase:

Question 3a: Does the phrase “...elevated walkways or platforms 3m or more above ground...” include walkway(s) or platform(s) that are located outside of a “main compressor buildings”?

Answer 3a: No

Question 3b: In certain design situations, there could be practical limit for the size of a platform where two exits would be infeasible or pose additional risk due to congestion on the floor within main compressor buildings. Can the number of exits and allowable escape path length for elevated walkways or platforms 3m or more above ground or floor level be established by a site-specific risk/consequence analysis, performed by a competent engineering design professional?

Answer 3b: No

Question 4: The National Building Code of Canada has allowance for maximum areas and maximum egress lengths before two exits are required. Could the applicable building and fire codes be used to satisfy the requirements of CSA Z662 when determining the number of exits to be provided?

Answer 4: No

Posted Dec 2, 2020

The following interpretation regarding Clause 6.1 of CSA Standard N291:19, Requirements for nuclear safety-related structures, has been approved by the Members of the CSA Standards Technical Committee on *Concrete Containment and Safety Related Structures for Nuclear Power Plants (N287/N291)*.

Rationale: Clause 6.1.2 would apply.

Question: Is it the intent of CSA N291:19 Clause 6.1 to preclude the use of steel-plate composite walls?

Answer: “No”. (Clause 6.1.2 would apply)

Posted August 27, 2020

The following interpretation regarding Clause 9.3.3.6 of CSA Standard CAN/CSA-C439-18, Laboratory methods of test for rating the performance of heat/energy-recovery ventilators, has been approved by the Members of the CSA Standards Technical Committee on *Heating, Ventilation, Air Conditioning and Refrigeration*.

Question: that QL shall be set to 0 whenever the H/ERV is in any defrost modes

Answer: No

Posted July 30, 2020

The following interpretation regarding Clause 12.2.5.2.3 of CSA Standard N285.4:19, Periodic inspection of CANDU nuclear power plant components, has been approved by the Members of the CSA Standards Technical Committee on *Periodic Inspection of Nuclear Power Plant Components* (N285B).

Rationale: The goal of the acceptance criteria is to satisfy the requirement to have no PT-CT contact at normal operating conditions from the time of inspection up to the end of the next periodic inspection interval. Any corrective action required to remove /prevent PT-CT contact prior to end of the next periodic inspection interval should be supported by a request for disposition.

The goal of the acceptance criteria is to satisfy the requirement to have no PT-CT contact at normal operating conditions from the time of inspection up to the end of the next periodic inspection interval. Any corrective action required to remove /prevent PT-CT contact prior to end of the next periodic inspection interval should be supported by a request for disposition.

Question: To demonstrate compliance with Clause 12.2.5.2.3(b) is it necessary to demonstrate that there is no pressure-tube-to-calandria-tube contact in an operational state at the inspection time and up to the end of the next periodic inspection interval?

Answer: Yes

Question: Is an owner/operator expected to consider the effects of change in the in- service loads (i.e., elastic response due to defueling the channel for inspection or to fueling the channel for operation) when evaluating inspection findings against the acceptance standards in Clause 12.2.5.2.3 (b)?

Answer: Yes

Posted July 30, 2020

The following interpretation regarding Clauses 1.5, 2.2, 4.3.7.2 to 4.3.7.4, 10.3.7, 10.3.8, 10.7.1, 16.8.7 and Table 4.2 of CSA Standard Z662-19, Oil and gas pipeline systems, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

Question 1a: A pipeline is constructed to an earlier edition of CSA Z662 (e.g. 2015) and requires some instances of change as shown below (change in service, increase in MOP, resumption). The class location designation as assessed per Clause 10.7.1 has not changed since the 2019 edition has been released. The pipeline has also not had a new crossing per 10.8.1.

If the pipeline requires a change in service fluid (Clause 10.3.7) which modifies the application of the pipeline from one row in table 4.2 to another e.g. “Gas (non-sour service)” to “Sour service fluid”, or from “LVP liquid hydrocarbon (with low flammability)” to “LVP liquid hydrocarbon (with high flammability)” does the design thickness calculation have to use location factors and/or designations as determined by the 2019 edition?

Answer 1a: Yes



Question 1b: If the pipeline requires a change in service condition per clause 16.8.7, which does not change the application of the pipeline from one row in table 4.2 to another e.g. remains “sour service fluid” does the design thickness calculation have to use location factors and/or designations as determined by the 2019 edition.

Answer 1b: No

Question 2a: Is it the intent of the standard that, if the pipeline from the scenario in question 1a) requires a change in service fluid (Clause 10.3.7) from one type of LVP (other than fresh water), to another type of LVP (other than fresh water) e.g. from LVP multiphase to LVP liquid hydrocarbon (with high flammability) do the DGA requirements as specified in clauses 4.3.7.2 through 4.3.7.4 apply?

Answer 2a: No

Question 2b: Is it the intent of the standard that, if the pipeline requires a change in service fluid (Clause 10.3.7) from something other than LVP (e.g. Gas) to a type of LVP (other than fresh water), do the DGA requirements as specified in clauses 4.3.7.2 through 4.3.7.4 apply?

Answer 2b: Yes

Question 3: If the pipeline from the scenario in question 1a) requires upgrading to a higher maximum operating pressure (Clause 10.3.8) does the design thickness calculation have to use class location factors and/or designations as determined by the 2019 edition?

Answer 3: Yes

Posted July 30, 2020

The following interpretation regarding Clauses 1.5, 2.2, 4.3.7.2 to 4.3.7.4, 10.7.1, and 10.7.2 note of CSA Standard Z662-19, Oil and gas pipeline systems, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

Question 1a: An LVP pipeline (other than freshwater) is constructed to an earlier edition of CSA Z662 (2015) and has been subject to a class location change as determined by Clause 10.7.1 and 10.7.2 because of an increase in housing. This change in class location happens to have occurred by a river.

Does the company have to determine whether the river would be considered a DGA for this existing line per Clause 4.3.7.2?

Answer 1a: No

Question 1b: Does the company have to determine if a release from the pipeline can affect this river or other DGA's in the area that the company has previously designated as required by Clause 4.3.7.3?

Answer 1b: No

Question 1c: Would Clause 4.3.7.4 apply to the scenario in Question 1a?

Answer 1c: No

Posted July 30, 2020

The following interpretation regarding Clauses 1.5, 2.2, 10.7.1, and 10.15.2 of CSA Standard Z662-19, Oil and gas pipeline systems, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

Question 1a: A pipeline is constructed to an earlier edition of CSA Z662 (e.g. 2015) and requires reactivation, per Clause 10.15.2, after a period of deactivation. Since the 2019 edition:

- The class location designation, as assessed per Clause 10.7.1, has not changed.
- The service fluid has not changed, as described in Clause 10.3.7
- There have been no new crossings per Clause 10.8.1.

Do the location factors and/or designations as determined by the 2019 edition now apply to the pipeline?

Answer 1a: No

Question 1b: Do the DGA requirements as specified in Clauses 4.3.7.2 through 4.3.7.4 of the 2019 edition now apply to the pipeline described in question 1a?

Answer 1b: No

Posted July 30, 2020

The following interpretation regarding Clauses 1.5, 2.2, 4.3.7.2 to 4.3.7.4, 10.10.2.5.1, 10.10.2.5.2, 10.11.2.3.1, and 10.11.2.3.2 of CSA Standard Z662-19, Oil and gas pipeline systems, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

Question 1a: An LVP pipeline (other than fresh water) is constructed to an earlier edition of CSA Z662 (e.g. 2015) and requires assessment of corroded areas per Clause 10.10.2.5.1 and assessment of grinding per Clause 10.11.2.3.1.

If the anomaly was in a location that could affect a DGA, do the limitations on location factor (Clause 4.3.7.4) apply to the equation in 10.10.2.5.1 or 10.11.2.3.1?

Answer 1a: No

Question 1b: If the pipeline was built to the 2019 edition and the anomaly was in a location that could affect a DGA, do the limitations on location factor (Clause 4.3.7.4) apply to the equation in 10.10.2.5.1 or 10.11.2.3.1?

Answer 1b: Yes

Posted July 30, 2020



The following interpretation regarding Clause 7.7.8.3 of CSA Standard Z662-19, Oil and gas pipeline systems, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

Question: Is it the intent that acceptable “depth” measurement of a slag inclusion **not exceed** 1mm in any direction?

Answer: Yes

Posted July 30, 2020

The following interpretation regarding Clause 6.5 of CSA Standard Z245.11-17, Steel fittings, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

Question 1: Does Clause 6.5.2 require that scraper bars be attached with full penetration welds per Clause 6.3.2?

Answer 1: No

Question 2: Does Clause 6.5.1 allow weld joint designs other than “full penetration” to be specified for the attachment of scraper bars in a tee?

Answer 2: Yes

Posted July 30, 2020

The following interpretation regarding Clause 12.7.5.2 & 4.7.1 of CSA Standard Z662-19, Oil and gas pipeline systems, has been approved by the CSA Technical Committee on *Petroleum & Natural Gas Industry Pipeline Systems and Materials*.

Question: Does Clause 12.7.5.2 include all welds that cannot be pressure tested?

Answer: Yes

Question: May soil restraint, such as that provided by specified depth of cover or soil density, be considered as a “special design measure” per Clause 4.7.1?

Answer: Yes

Posted June 25, 2020

The following interpretation regarding Clause 4.4.2 of CSA Standard A440.4-19, Window, door, and skylight installation, has been approved by the Members of the CSA Standards Technical Committee on *Performance Standard for Windows*.

Question 1: Does Clause 4.4.2 of CSA A440.4-19 consider that manufacturers complying with this clause should provide written installation instructions, that are to be used on-site, which would include anchor details as required by NAFS-17?



Answer: Yes

Question 2: Does Clause 6.1.3 of CSA A440.4-19 consider that, given the requirements of Clauses 10.1.1 and 10.2.4.1, continuity between the fenestration product and the water-resistive barrier should be provided in a way to prevent impacts on the fenestration product drainage system and the installation cavity drainage systems?

Answer: Yes

Question 3: Clause 6.5.4.1 of CSA A440.4-19 does not specify a minimum thickness when plywood is used as the required wood sub-frame. Does 19 mm thick plywood, that is sufficient to resist the loads imposed on it, meet the requirement of Clause 6.5.4.1 of CSA A440.4-19?

Answer: Yes

Question 4: Do the requirements of Clause 8.6.3 with respect to the insertion of the drywall into the J-mould only apply when the drywall is intended to serve as the airtight component of the air barrier system?

Answer: Yes

Posted June 5, 2020

The following interpretation regarding Clauses 7.11.2 (Basis), 7.11.5 Filtration Effect (Filtration Effect) of CSA Standards N288.2-14 and N288.2-19, Guidelines for calculating the radiological consequences to the public of a release of airborne radioactive material for nuclear reactor accidents, has been approved by the Members of the CSA Standards Technical Committee on *Environmental Management for Nuclear Facilities (N288)*.

Rationale: The term “filtration” normally applies to the reduction in indoor particulate concentrations compared to out of doors particulate concentrations arising from a filtration effect of a home with closed doors and windows.

The inhalation pathway protection factor for indoor occupancy assumes a filtration effect when outside air mixes with air inside the house. In the case of tritium (HTO) the filtration effect is negligible, so it is not appropriate to apply the protection factor in Clause 7.11.5, since it was derived for particulates.

Question: Does CSA N288.2 apply a protection factor less than 1 to the dose from a short term tritium release to an individual at the site boundary?

Answer: No

Posted May 28, 2020

The following interpretation regarding Clause 4.8.5 of CSA Standard ANSI Z83.25/CSA 3.19, Direct gas-fired process air heaters, has been approved by the Members of the CSA Joint Technical Committee on *Gas Standards*.



Question: Last sentence of paragraph: “For intermittent or continuous pilot ignition systems, the supervision shall be at a point furthestmost from the source of ignition.” Is the intent of this paragraph is to verify flame propagation?

Answer: Yes

Question: Was this paragraph written to apply to flame rods or other localized flame detection methods?

Answer: Yes

Question: Were the operating characteristics of UV sensors considered when paragraph was authored?

Answer: Yes

Posted May 28, 2020

The following interpretation regarding Clause 4.8.4 of CSA Standard ANSI Z83.25/CSA 3.19, Direct gas-fired process air heaters, has been approved by the Members of the CSA Joint Technical Committee on *Gas Standards*.

Question 1: Section 4.8.4 states that “The automatic gas ignition system shall operate in accordance with the following, as applicable: (f) The primary safety control shall de-energize all main gas safety shutoff valves within the time specified in Table 1 after flame failure. A single trial for re-ignition may occur but, if it is not successful or is not provided, the primary safety control shall assume a lockout position and shall require a manual restart.” The definition of primary safety control is “a control responsive directly to flame properties, sensing the presence of flame and causing fuel to be shut off in the event of ignition or flame failure requiring manual reset.” Was it the intention of section 4.8.4, along with the definition of primary safety control, to require that a flame safeguard device has its own built in integral manual reset?

Answer: No

Question 2: If the answer to Question 1 is no, can the manual reset/restart functionality be part of an overall control system which prevents the burner from automatically relighting, but in which the flame safeguard does not have its own internal manual reset?

Answer: Yes

If the answer is yes, restarting of the burner would require manual intervention with the control system, but not specifically manually resetting the flame safeguard.

Agreed.

Posted March 18, 2020

The following interpretation regarding Clauses 8.3.4 and 10.1.4 of CSA Standard N293-12, Fire protection for nuclear power plants, has been approved by the Members of the CSA Standards Technical Committee on *Fire Protection for Nuclear Power Plants (N293)*.

Background: There is a concern that an inherent conflict-of-interest (perceived or real) could exist if the vendor tasked with determining the personnel and equipment needs [via c.10.1.4] is also tasked with assessing the sufficiency of personnel and equipment [via c.10.2.3].

The lineage that the Fire Protection Program Audit [c.8.3.4] is to include an assessment of sufficient industrial fire brigade personnel and equipment [c.10.2.3]. It relies on the position that the “performance levels” to be assessed via an emergency response team drill [c.8.3.4(h)] are those specified in c.10.8, Industrial Fire Brigade Performance Criteria, as “performance requirements”.

Question: Can the 3rd party vendor performing Fire Analysis as per 10.1.4 also perform Fire Protection Program Audit as per 8.3.4?

Answer: Yes

Posted February 20, 2020

The following interpretation regarding Clause 6.2.7.3 of CSA Standard C22.3 No. 7-15, Underground Systems, has been approved by Members of the CSA Standards Technical Committee on *Underground Systems*.

Background: Quebec department of transportation (Transport Québec) owns subsurface chambers in which supply conductors for surveillance cameras (600 V) and fiber optic cables are installed. Clause 6.2.7.3 of the C22.3 No.7-15 states that supply cables and communication cables may occupy the same subsurface chamber if “(...) c) communication cables or equipment with exposed non-current-carrying parts is bonded to the supply neutral and the supply cable metallic shield/sheath and the whole effectively grounded;(...)”

Question: Does it means that the dielectric jacket of a fiber optic cable shall be connected to the supply neutral conductor?

Answer: No.