What we heard report:

Review of the *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations*

Environment and Climate Change Canada
Environnement et Changement climatique Canada

Canada

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Introduction

Environment and Climate Change Canada (ECCC) initiated a review of the *Storage Tank Systems for Petroleum Products and Allied Petroleum Product Regulations* (the Regulations) in 2020. This review was part of the departmental Regulatory stock review plan. The Regulations have been in place since 2008 and any amendments thus far have been administrative in nature. The review of the Regulations was needed to:

- ensure that referenced standards are still relevant
- allow for flexibility as new technologies emerge
- ensure ongoing protection of the environment from leaks or spills of petroleum products and allied petroleum products

The review also provided an opportunity to clarify some aspects of the current Regulations. We also sought feedback on technology, knowledge, and strategies as they have evolved since 2008. This report presents:

- how we sought input through the engagement activities
- who provided input
- what we heard
- the next steps moving forward

How we consulted

As part of the stock review exercise, pre-engagement was initiated in March 2022 to increase awareness of the process. It also provided notice of the upcoming engagement activites as part of the stock review exercise. Outreach was undertaken to the following groups:

- Assembly of First Nations (AFN)
- Tribal Councils, Provincial and Territorial Associations
- Canadian Fuel Association
- Canadian Petroleum Contractor Association
- Interdepartmental Storage Tank Working Group (federal government)

In July 2022, we released a discussion document to solicit feedback from Indigenous peoples, regulatees, and other interested stakeholders. The discussion document summarized information on the Regulations and identified specific areas for comment. Over 12,000 contacts received notification of the publication of the discussion document via email. In addition, we promoted the publication using ECCCs social media accounts and webpages.

In order to support meaningful national consultations during the COVID-19 pandemic, we held the majority of activities online. Engagement activities included:

- **Written comment period**: We solicited written input by email from all interested parties between July 18 and October 2022
- **Webinars**: We hosted a dozen webinars to provide an overview of the discussion document and answer questions
- **Stakeholder and partner ad hoc meetings**: Upon request, we presented the discussion document at various meetings during and after the consultation period

This report summarizes and consolidates the feedback received during these activities.

Who participated

We received a significant number of comments (over 700) representing the views of 30 different interrested parties. We also met with First Nation organizations, industry, standard organizations and some regulatees. We wish to thank everyone who provided input.

Between March to November 2022, ECCC received comments from people in the following categories:

- Federal House (30%)
- Consultants and Engineering firms (26%)
- Indigenous and Aboriginal lands (11%)
- Associations (11%)
- Federal Work and Undertakings (11%)
- Fuel suppliers (7%)
- Telecommunication (4%)

The majority of verbal and written comments received were from federal departments and agencies as well as consulting firms.

Key elements

The discussion document solicited feedback on all elements of the Regulations. Using the same headings found in the Regulations, we posed a series of guiding questions for each topic to help focus the comments.

Overall, stakeholders were in favor of having an instrument to regulate storage tank systems under federal jurisdiction. The need for emergency generators for life safety, dispensing fuel to fleets, and heating systems connected to storage tanks are still in demand and necessary to support Canadians in their day-to-day activities. As such, the Regulations are necessary to reduce the risk of releases into the environment.

Comments received outlined concerns, challenges and considerations related to numerous elements of the Regulations, including:

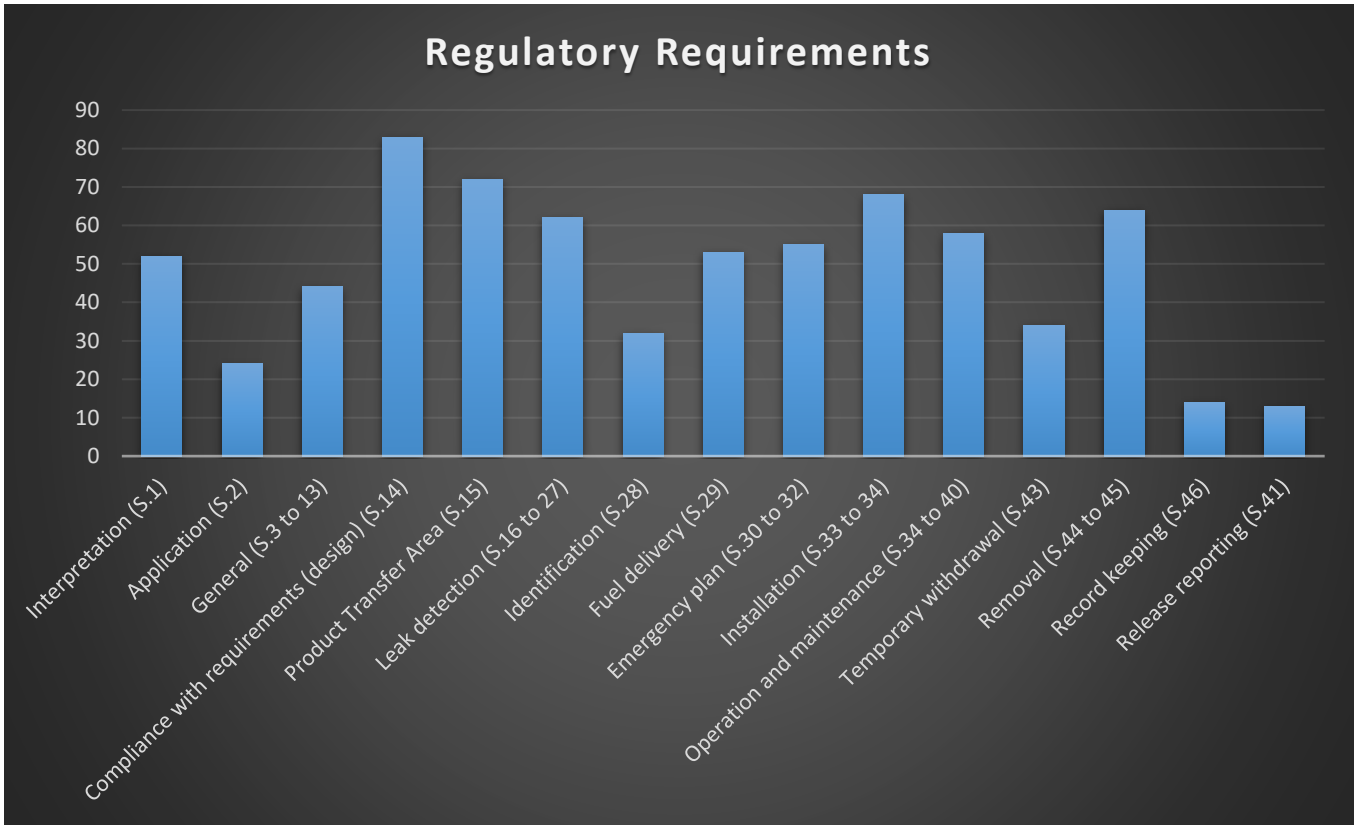
- emerging technologies
- alignment with other jurisdictions
- regulatory compliance
- enforcement
- reporting

- additional guidance material

Feedback received on each of the topics highlights the need to modernize the Regulations.

Figure 1. Breakdown of written comments on discussion document by ***implementation topic*** shows the number of comments received for each of the topic. Compliance with design, product transfer areas, and installation were the topics received the highest number of comments.

Figure 1. Breakdown of written comments on discussion document by implementation topic



Long Description

Figure 1 provides the number of comments ECCC received during the engagement activities divided by the 15 implementation topics presented in the discussion document using the same headings found in the Regulations. Of the 728 comments received, 52 relate to interpretation (section 1), 24 relate to application (section 2), 44 relate to general (sections 3 to 13), 83 relate to compliance with requirements (section 14), 72 relate to product transfer areas (section 15), 62 relate to leak detection (section 16 to 27), 32 relate to identification (section 28), 53 relate to fuel delivery (section 29), 55 relate to emergency plan (sections 30 to 32), 68 relate to installation (sections 33 to 34), 58 relate to operation and maintenance (sections 35 to 40), 34 relate to temporary withdrawal (section 43), 64 relate to removal (sections 44 to 45), 14 relate to record keeping (section 46) and 13 relate to release reporting (section 41).

What we heard

This report summarizes all comments received organized by implementation topic. We do not attribute them to any specific organization or individual. The guiding questions for each implementation topic can be found in the Appendix A: Questions from the Discussion Document – Review of the storage tank regulations of this report.

This report is reflective of what we heard from interested participants throughout the engagement process but does not reflect policy direction or ECCC's intent.

General comments

This section covers broad and miscellaneous comments:

- **Language –** We heard that the language used in the Regulations is too technical. It was suggested to simplify the language and the concepts used. Concerns were also raised about the incorrect usage of certain French wording commonly used in the industry when compared to the English
- **Implementation –** Some challenges were raised about inconsistent national implementation. The application (section 2) for Federal Work and Undertakings (FWU) as currently written is open to interpretation
- **Alignment with other jurisdiction –** Some concerns were raised regarding provincial and international regulations, standards or codes that may not align with the current Regulations. The importance of consistency with other jurisdictions was emphasized. Alignment with provincial reporting and record keeping requirements was suggested to reduce the administrative burden as well as any confusion among owners, operators and installers
- **Guidance –** We received a few requests asking for guidance material to assist regulatees in understanding the intent of certain requirements and aid them in their compliance. These included a checklist for assessment purposes on product transfer areas and a table of content for the emergency plan
- **Geographic –** Special considerations for Northern and remote regulated communities were requested

Definitions (section 1)

We heard about the need to define certain terminology and improve some of the current definitions in the Regulations. The suggestions are as follows:

Collapsible fabric storage tank

Add a definition.

Emergency generator

Add a definition.

Consider the definition in section 1 of the Canadian Standards Association standard on Emergency electrical power supply for buildings (CSA C282).

Person approved

Add a definition.

Petroleum product / Allied petroleum product

Include recovered petroleum.

Define “waste oil” to help differentiate it from "used oil".

Revise inclusion criteria for allied petroleum products.

Relocation

Add a definition.

Storage tank system

Add the following into the current definition:

- where the regulated piping finishes
- what is included as regulated piping
- when a storage tank system (STS) is considered indoor (full system or components)

Temporary withdrawal

Add a definition.

We also heard that the following aspects should be considered when developing a new definition:

- duration
- location and weather
- exclusion for construction and seasonal tanks
- collapsible fabric tank
- aligning better options for identification
- relocation/recertification
- operational and inspection needs during withdrawal and before putting the tank back
- person allowed to perform maintenance/inspection/install
- alignment with American Petroleum Institute (API) and Steel Tank Institute (STI) standards
- distinction for withdrawing certain components versus the whole system

Transfer area and section 15

As currently written, the requirement for a product transfer area (PTA) is not prescriptive. We heard that there is much room for interpretation.

We also heard that a more comprehensive description of what should be included be specified in the Regulations. The following suggestions were provided:

- consider additional exemptions based on volume, tank use (used oil, dispensing) and location
- indicate a clear delineation of the area
- add an assessment to determine if the transfer area is properly designed to contain spills

- remove the PTA requirements altogether and instead add more installation/design requirements

Upgrades

Include a trigger to distinguish when a system is considered new versus an existing system being upgraded.

Storage tank systems application (section 2)

We heard feedback about improving some of the application provisions, including exemptions.

Federal work and undertaking

Paragraph 2(1)(b) 'to provide a service to' is open to different interpretations. Rewording was suggested to ensure the intent of the application is well understood among railway and airport operations.

Indoor STS

It was suggested that adding indoor STS to the application of the Regulations may provide better environmental protection. However, we also heard that indoor systems pose a low risk for releases. This is due to their level of containment and lack of exposure to the outdoor elements.

Adding indoor STS would significantly increase the administrative burden. As such, an assessment of the risk of fuel releases from these systems was suggested. This would help determine whether adding them to the Regulations would actually mitigate any risks.

Exception of 2,500 L storage tank systems connected to emergency generators

There was a variety of feedback related to the options for regulating STS under 2,500L connected to emergency generators. Many considerations were raised should all STS connected to emergency generators be regulated, such as:

- any potential changes to existing STS as a result of conformity requirements could pose significant cost and complexity due to the integrated nature of the said storage tank
- a significant grace period should be considered given the challenges with any upgrades
- any potential changes should be reviewed to ensure they align and do not conflict with the National Fire Code of Canada (NFCC) and Canadian Standards Association Installation code for oil-burning equipment (CSA-B139)
- many unmanned facilities have this type of STS. There may be some logistical challenges to meeting compliance at these sites in off seasons
- an increased level of effort for bringing STS up to compliance (environmental emergency plan, inspections etc.)
- a significant administrative burden to register and keep systems up to date in the Federal Identification Registry of Storage Tank System (FIRSTS) as a considerable number of systems may have to be identified

General requirements (sections 3 to 13)

Potential prohibition and requirement – Underground STS

We heard that removing single-walled underground tanks and piping would have a low impact. This is due to the rarity of this type of system. However, some single walled installations are still in service in Northern regions.

A prohibition of all single-walled underground storage tank systems could be costly. This would also increase logistical challenges in replacing them. Given this, some exemptions or alternative approaches were proposed specifically for Northern regions.

Use of secondary containment

We heard that regulatees are aware of the risks that accumulated surface water or snow pose to secondary containment capacity.

Many factors were raised regarding difficulties in complying with section 13 (secondary containment must not be used for storage purposes), such as:

- site accessibility
- climate variation and geographical location
- design and proper usage of component
- risk of components damages
- staff availability

Compliance with requirements (design/installation, section 14)

We received a considerable number of comments regarding the technical design and installation requirements.

Method of reference by incorporation

We heard a strong desire to reduce the number of references or to use a different approach to incorporate standards into the Regulations to facilitate their interpretation.

Relevance of referenced standards

Comments received highlighted the need to include additional design and inspection codes and standards. These would complement the regulatory objective and align with the requirements of other jurisdictions. The following were suggested:

- the National Fire Code of Canada (NFCC)
- the Canadian Standards Association standard for Collapsible fabric storage tanks (bladders)(CSA-B837)
- the Canadian Standards Association Installation code for oil-burning equipment (CSA-B139)
- some American Petroleum Institute (API) standards,
- some American Society of Mechanical Engineers (ASME) pressure Codes,
- the Steel Tank Institute Standard for the Inspection of Aboveground Storage Tanks (STI –SP001)

Flexibility for STS specifications

We heard that the Regulations need more design flexibilities. This would ensure that a STS can be adapted to specific geographical and climate conditions.

Allowing more flexibility for STS specifications/prescription was also suggested. This could be done by limiting the number of standards and permitting professional engineers to design using their professional discretion.

Regulatory challenges with the commissioning processes

We heard that allowing a certain amount of fuel in the STS to perform commissioning would be helpful. The current requirements to comply with the installation and design requirements prior to the transfer of fuel products to STS are not technically implementable with industry practices.

Design and installation of dispensing systems

Incorporating dispensing systems up to the nozzle into the definition of STS was recommended. However, we heard this should only be done if the NFCC is aligned with the regulatory objective.

Should dispensers up to the nozzle become regulated, an exemption for dispensing systems in railway systems was suggested. This is due to unique and specific industry standards.

STS components located inside a building

We heard that retrofitting a STS located inside a building would be expensive. This would include implementing inspection and maintenance programs. Example are retrofitting for visual inspections or continuous leak detection.

We also heard that the requirements in chapter 7 of the CSA-B139 should be considered for STS inside a building. This would ensure they align and do not cause conflict.

Repurposing tanks and piping

Generally, regulatees would like to be able to repurpose tanks and piping that are in good condition. However, clear direction on when/what/how a tank can be repurposed would be needed.

We also heard the following should be considered for repurposed tanks:

- provide authority for professional engineers to conduct inspections and oversee any needed repairs or refurbishments)
- ensure the repurposing process is compatible with Canadian or US codes of reuse

Manufactured dual-purpose tanks in Canada

The following examples of manufactured dual-purpose tanks used in Canada were provided:

- “Westeel TransCubes”
- a mobile tank which is also CAN/ULC-S602 (Standard for Aboveground Steel Tanks for Fuel Oil and Lubricating Oil)
- a tank which is CAN/ULC-S601(Standard for Shop Fabricated Steel Aboveground Tanks for Flammable and Combustible Liquids) and CAN/CGSB-43.146/UN31A (Standard for design and manufacture of UN standardized Intermediate Bulk Containers (IBC) with a capacity less than or equal to 5000 L) certified
- a dual compartment tank for heating and emergency power
- IBC's by Western Global/Trans Cube

Use of dual-purpose tanks

We heard that dual-purpose tanks are used for the following purposes:

- mobile equipment, as defined in the Canadian Standards Association standard for Portable oil-burning equipment — Packaged equipment requirements (CSA B138.1)
- emergency or temporary “package type” heating systems
- construction or for other operational requirements when both fixed and mobile installations are required

We also heard that regulatees would like clarity on when a dual-purpose tank system falls under the Transportation of Dangerous Goods (TDG) or under ECCC’s application.

Reducing environmental risk

Several comments received suggested adding requirements to help protect health and the environment, especially in sensitive areas.

The following considerations were provided:

- include a minimum distance for STS near bodies of water and sensitive areas regardless of their capacity
- install overfill protection and an emergency shut-off-switch at multiple locations for STS near bodies of water
- add additional engineered barriers or safeguards to further contain any spills
- prescribe further requirements to mitigate release risks when the project is not subject to the *Impact Assessment Act*
- specify the location of the PTA at a reasonable distance from sensitive areas
- specify the use a physical barrier or protective equipment
- prescribe training programs and procedural requirements for fueling boats and other equipment in or near sensitive areas

Compliance with requirements (product transfer areas, section 15)

We heard that the product transfer area requirements create significant obstacles. The following issues were raised:

Costs associated with the design and implementation of a product transfer area

Predicting the cost of designing and implementing a PTA can be challenging. This is due to many different factors such as remoteness, size of tanks, operation, and physical design. Given this, costs vary greatly.

It was suggested that adding a requirement for standing operating procedures (SOP)s to be in place may lower costs.

Challenges with designing a product transfer area

Many challenges with designing a PTA were highlighted, including:

- remoteness (climate and staff availability)

- different interpretations of what a PTA is among project team members
- infrastructure limitations
- limited space contraints
- methods used to deliver fuels
- frequent relocation of STS
- physical operation

Guidance to assist in risk managing a product transfer area

There was general agreement that most releases occur due to human error, not equipment failure.

Some suggestions we heard to improve the PTA requirements include:

- the use of risk assessment templates that are based on quantitative factors
- minimum guidance on conventional methods of product transfer
- incorporating SOPs in the design requirements for a PTA
- guidance on specifications, like sizing, and maintenance of all materials used
- ensuring that only competent and registered engineers design a PTA
- integrating physical security devices into the design and installation

STS types with lower probability of releases

The design of certain storage tank systems already makes them a lower risk than others for releases. For example, fuel pumped by a truck or used oil tanks. Consideration for these was requested to reduce the operational and administrative burden.

We heard that the following other types of STS have a lower risk of release:

- storage tanks with all connection points at the top of the tank
- STS with spill and overfill protection devices with alarms
- indoor STS
- STS using liquid tight seal
- lower volume STS

Restrictions with implementing section 15 prior to the first transfer into the STS

We heard support for having a PTA implemented prior to the first transfer of fuel into a STS. However, it was suggested to add specifications for the commissioning of a PTA. This would ensure the area has been tested and is operable. This would confirm the PTA meets its intent of containing a release.

Leak detection (sections 16 to 27)

There is support for better inspection and leak detection oversight. The Regulations already prescribe leak detection and monitoring requirements for specific STS that were installed before June 12, 2008.

Challenges for operators and inspectors should leak detection methods be imposed for all STS

We heard the following considerations should leak detection methods be imposed for all systems:

- remote monitoring and staff availability

- anticipate significant investment costs
- workload increases
- time constraints
- mobilization of equipment incorporating leak detection systems in the design planning stage

Location/Accessibility

We heard feedback highlighting that remote areas lack reliable power which prevents the proper use of automatic electronic monitoring.

Contrary to urban settings, repairing and maintaining leak detection systems in remote locations is challenging and so is difficult to implement.

Leak detection and monitoring designs commonly used to detect a release in liquid form

We heard about the following leak detection and monitoring designs:

- visual monitoring is the most common design option for aboveground storage tank (AST) systems
- sump liquid sensors and interstitial monitoring are the most common options for underground storage tank (UST) systems
- access wells, monitoring wells and transition sumps, which include a combination of visual monitoring and liquid sensors, are used for underground installations
- monitoring alarm panels are used for both AST and UST systems
- volumetric detection

Common maintenance and inspection programs and their frequency

We heard that the following maintenance and inspection programs are being used:

- monthly inspection
- visual inspection
- annual testing by a certified professional
- as per manufacturer recommendations
- daily walkaround and before a fuel transfer

Practicality of the prescribed leak detection requirements

We heard the following concerns regarding the current prescribed piping and sump leak detection requirements:

- the criteria stated for the annual piping precision leak detection test is not practical for certain piping installations. It does not allow for other common industrial piping tests, such as a line tightness test to be used
- the prescribed leak detection requirements do not consider newer preventive and containment leak technologies
- the specifications for continuous sump leak monitoring is not a commonly used term for storage tank sump sensors. It cannot be met by any sensor currently on the market

Challenges with mandatory annual testing of detection monitoring systems and its components

We heard support for the concept of conducting inspections on detection monitoring systems and its components. However, there were strong concerns about high costs, time constraints, accessibility, and staff availability.

Obstacles with conducting corrosion analysis programs

We heard the following concerns regarding implementing corrosion analysis programs:

- availability of certified corrosion experts
- financial considerations
- seasonal timing in remote locations
- interference with operations

Identification (section 28)

We received a variety of comments about the existing labelling and reporting requirements.

Prescribing how to label STS

We heard that having more prescriptive requirements for labelling would be helpful, particularly for fuel suppliers, in order to increase the visibility of a STS.

If prescriptive labelling requirements are implemented, the wide variety of STS present under federal jurisdiction needs to be considered.

60-day timeline for reporting identification changes

We heard that the current 60 days for reporting to ECCC may not be sufficient.

Many regulatees indicated that the information required for identification is typically provided by the contractor or consultant and then vetted through the client/owner.

An increase in the timeline to 90 days was suggested to ensure accurate information is reported to ECCC.

Delivery of petroleum products or allied petroleum products (section 29)

Advantages/disadvantages of continuous supervision of the filling operations

We heard that many regulatees in urban areas find this advantageous as it could reduce the risk of releases.

However, we also heard the following concerns:

- having a qualified observer during the filling process in Northern communities and outside business hours is impractical
- most fuel suppliers are trained on safe fuel delivery. Therefore, continuous supervision of the filling operation may not be necessary

- supervision and its documentation would raise the administrative burden on the regulated community

Ensuring proper filling operation in the absence of supervision

We heard the following suggestions from a variety of stakeholders:

- add requirements for cam-lock systems with mechanical overfill protection and alarms
- adopt more stringent PTA designs
- add signage for filling and emergency response procedures at the site
- install security cameras around the filling point area
- impose liability on fuel suppliers to ensure proper filling
- complete mandatory forms to acknowledge the amount of fuel delivered and the absence of spills and releases
- adopt recommendations for unattended deliveries from the Professional Petroleum Driver's Manual

Prescribing storage tanks filled beyond their safe filling level

Most comments received were in favor of prescribing that storage tanks shall not be filled beyond their safe filling level.

Practicality of prescribing standard operation procedure be in place prior to delivery

All feedback received was in favor of prescribing that standard operation procedures be in place prior to delivery. This could reduce the risk of spillage, and consequently reduce the environmental risks to nearby water bodies.

Cautions was raised about the simplicity and adaptability of SOPs to remote northern facilities.

Emergency plan (sections 30–32)

In order to assist regulatees with the implementation of the emergency plan, a few considerations were raised.

Clarifications required for the preparation of the emergency plan

We heard that a template as a preparatory guide for the emergency plan would be useful.

Administrative concerns

We heard that keeping the plan up to date is challenging because of staff turnover and difficulties in tracking specific trainings and names.

In addition, the prescribed area of where to keep the emergency plan is not suitable for proper implementation purposes in all scenarios across Canada, for example in remote areas.

Cost associated with the development and implementation of the emergency plan

We heard that the cost of developing an emergency plan can depend on several factors. These include the number of systems at the facility and who is developing the plan.

We also heard that some regulatees have their staff who can draft a plan. Others do not and must hire an outside consultant.

According to the feedback received, developing an environmental emergency plan could range from $2,000 to $10,000.

Providing a copy of the emergency plan to the local fire department

Half of the comments received indicate that it is acceptable to ensure a copy of the emergency plan is supplied to the local fire department.

The other half however, highlighted obstacles that would increase the administrative burden. We heard how impractical it would be given the significant variations in local fire departments.

Mandatory spill kits, fire extinguishers and signage

Most stakeholders expressed that imposing spill kits, fire extinguishers, and signage would be helpful.

We also heard the following recommendations:

- dictate the appropriate sizing and type of spill kits
- refer to part 4 of the National Fire Code of Canada (NFCC)
- mandate the presence of a spill kit near the transfer area before any fuel transfer operation

Potential duplication of the emergency plan requirements with other legislations, bylaws and codes

Concerns were raised regarding emergency plan requirement duplication with the following:

- the Environmental Emergency Regulations
- potentially with the Canadian Nuclear Safety Commission
- the Oil Pollution Prevention Plan (OPPP)
- the Oil Pollution Emergency Plan (OPEP), as well as with local fire emergency plans

Installation of storage tank systems (sections 33–34)

Installers

We heard that regulatees would like more flexibility on who can perform installations. This would provide more options for them when securing the required skilled labour.

Currently in Canada, the available certification programs do not train their certified installers to install bladders and bulk-type railroad STS.

Design and drawing

We received many comments related to eliminating or reducing the requirements for having design plans, drawings and specifications signed and stamped by a professional engineer for certain STS. This would better align with existing industry practices.

Common types of drawings used for a new installation project

We heard that the most common drawing names or documents used for a STS installation are:

- site plans
- as-built engineering drawings
- manufacture drawings

- specification drawings
- shop drawings
- survey plans
- layout plans

Terminology used when referring to specific “drawings”

We heard of the following terms when referring to specific ‘drawing’ for an STS installation:

- storage tank system drawing
- as-built drawing
- record drawing
- technical document
- final drawing

We also heard that the term ‘as-built drawings’ is not consistently used across Canada. Because of this, it was suggested that the term be evaluated for an alternative. Another suggestion was to simply define it in the Interpretation section of the Regulations.

Clarity needed for specific requirements during installation projects

The following scenarios were mentioned where clarifications are needed for specific requirements during installation project:

- distinction between a new installation and changes/upgrades to an existing system
- recognition of the different nature of collapsible fabric storage tank systems
- clarification on the definition of "fuel transfer for the purpose of commissioning"

Common practices when stamping drawings

We heard that a registered professional engineer must stamp the drawings for various types of STS for both new and upgraded installations.

We also hear that during construction, the contractor red lines any deviations from the design drawings. This red-lined version and site photographs are provided to the engineer. The engineer then prepares and stamps the as-built drawings accordingly.

Content of the record and/or as-built drawings

We did not receive any comments specific to what can be found on the record and/or as-built drawing.

Instead, we were provided with some elements that are not typically included in as-built drawings, such as outlines of building foundations and property lines.

We heard a suggestion to consider mechanical, electrical, civil and structural aspects of typical projects when reviewing section 34 of the Regulations.

Industry practices when “standalone type tanks” are installed

We did not receive any comments specific to common practices used in the industry for the installation of “standalone type tanks”.

We heard favourable comments about eliminating the need to have design plans, drawings and specifications for small stand-alone STS signed and stamped by a professional engineer.

We also heard differing information on how these ‘standalone tanks’ are being managed during installation across Canada.

Overall, comments received recommended that some ‘stand-alone systems’ be installed without the mandatory use of a provincially approved person or supervised by professional engineer. As an alternative approach it was suggested to put the liability on operators instead.

Operation and maintenance (sections 35–40)

We heard about the lack of operation and maintenance procedures for the STS as a whole. The current operation and management provisions relate only to oil-water separators (OWS) and water bottoms.

Other regular activities to ensure that a system is well maintained

We heard favorable feedback about adding regular activities to ensure that a STS is operated and maintained properly. These activities include:

- a visual inspection program
- a routine fuel polishing
- an annual performance inspection

We were also referred to existing codes of practice to ensure that a STS is operated and maintained properly. These include:

- the Installation Code for Oil-Burning Equipment (CSA B139)
- the Emergency electrical power supply for buildings (CSA C282)
- the Storage, handling, and dispensing of aviation fuels at aerodromes (CSA B836)
- other API standards

Time frame considerations for completing a regular inspection or other maintenance activity

We heard the following views about inspection/maintenance activities:

- seasonal tank systems: an annual inspection should be performed during the season when the system is in operation
- higher risk systems: should undergo an independent third-party inspection following installation and then again periodically
- moderate weather conditions: fuel cleaning process (polishing) should be performed
- single-wall vertical tanks: an API inspection should be required every ten years
- performance system checks: Federal Halocarbons Regulations 2022 should be considered

Current minimum maintenance practices in the industry recommended by manufacturers

We did not receive any comments specific to current minimum maintenance practices. It was suggested to include language that indicates operators must follow the minimum manufacturer intent.

Oil-water separators

We heard there is a need for clarification and for some flexibility regarding the prescribed oil-water separator (OWS) maintenance methods. This would ensure they are achievable across all Canadian regions.

We also heard that clarification is needed on when an OWS is a component of the STS and when it is not. The Quebec Construction Code was mentioned, as an example.

Water bottom removal

Water bottom inspections for some steel tanks were mostly supported. However, we heard that the type, usage and location of the tank should be considered before adding any new requirements.

Most comments proposed an annual frequency for water removal inspections.

Disposal challenges

While most regulatees are in favour of testing fuel for the presence of water, they shared the following comments:

- a secure area for drum/container storage is needed
- spills due to tipped drums and other associated risks should be carefully assessed
- operational and administrative burden is anticipated
- frequent inspections would not be practical in the North

Release Report (section 41)

Reporting all releases regardless of quantity or location

There is general support for not reporting all releases. This would be very time-consuming and would increase the administrative burden.

Recommendations were made to harmonize with the Transport and Dangerous Goods Regulations and the Environmental Emergency Regulations (E2) to reduce the level of effort.

Withdrawal from service (temporary and permanent) (section 42)

Activities related to withdrawal from service

We did not hear any comments specific to activities to be considered during withdrawal from service.

Clarification on the type of activities that are permissible under a temporary withdrawal from service was requested.

Temporary withdrawal from service (section 43)

Timeline (less than 2 years)

We heard that the current timeline may not be sufficient. This is due to a shortage of skilled laborers and supply chain challenges.

We also heard the following concerns about remote northern sites:

- short field seasons
- contractor availability
- disposal options

A duration of 5 years was recommended. In addition, it was suggested to include a mechanism for requesting an extension if the current timeline remains the same.

Additional reporting requirements

We heard that almost half of the respondents favoured reporting the dates of temporary withdrawals. The other half questioned its added value.

Operational challenges to maintaining an STS during a temporary withdrawal

Clarification on the maintenance activities to be performed while not in use was requested.

We heard of the following operational challenges faced during a temporary withdrawal:

- keeping the emergency response plan current, especially when the STS or a component is pending divesture
- actively inspecting the STS

The NFCC and the API guidelines for maintaining a STS temporarily withdrawn were mentioned for consideration purposes.

Permanent withdrawal from service (section 44)

Additional details about the permanent withdrawal

We heard that providing a reason for the withdrawal and indicating whether the system was replaced could help retrieve past information. This could improve information management.

Labelling

We heard that the existing labelling requirement as part of the permanent withdrawal from service of the tank is not necessary when the removal is done at the same time of the permanent withdrawal. It was recommended to remove the labelling requirements in those circumstances. It was proposed to allow locking out the fill port instead of labeling the system. The current labelling requirements seem to be an extraneous administrative burden.

Removal of storage tank systems (section 45)

Timeline to remove the STS and or components considering remote location

We heard that the lack of a timeline has presented challenges for regulatees. A prescribed removal deadline is preferred, as none currently exists.

However, a mechanism should be considered to provide additional time for the following specific circumstances:

- not technically, logistically or economically feasible
- lack of labour

Generally, we heard that:

- two years should be sufficient to remove the STS and components
- five years should be considered in remote locations

Withdrawal/disposal report (closure report)

The feedback received indicated that the preparation of a closure report by a contractor would be helpful for:

- liability
- due diligence
- record purposes

Reporting details about the removal

We heard that reporting specific details to ECCC would have a low impact. However, it was highlighted that this could increase the administrative burden.

Challenges to physically remove a STS

We heard of the following challenges to physically remove a STS:

- timing for remote locations and their access
- the cost of transport
- digging at facilities with high-level security
- location (urban vs rural and remote, under infrastructure)

Consideration for Removal - Abandonment

Comments received proposed allowing the abandonment in place of a storage tank or its components for specific situations, such as:

- if pipelines were cleaned, capped, and left for removal later when accessible
- if the infrastructure has grown on top of the components of an STS
- if the site is not accessible by road
- if removing the tank poses a high risk to the environment

We heard that when removing a tank is not feasible, referral to the Civil Code of Quebec could be considered.

We also heard that record keeping for historic, further site use, and insurance purposes seems inconsistent across the country. Records, if kept, may include some of the following:

- investigations
- removal reports
- contract documents
- remediation
- sampling results
- drawings for construction
- as-builts
- records from Federal Contaminated Site Action Plan, when applicable

Record keeping (section 46)

Records on maintenance and service

Half of the comments received anticipate a low impact if new requirements were imposed on operators to keep records of the work maintenance and service work performed on storage tank systems. The other half expected a significant amount of effort.

We heard that the impacts of imposing record keeping of maintenance and service work would vary depending on the following factors:

- nature of the reporting system
- the amount of required information
- the frequency of reporting

Retention location

Regulatees requested revisions to the current requirement of where to keep records to allow for flexibility given modern electronic recordkeeping practices.

Schedule 2

We received a considerable number of suggestions for improving the functionality of the Federal Identification Registry of Storage Tank Systems (FIRSTS). Recommendations include:

- adding or modifying certain features to facilitate data entry and submission reviews
- improving reporting mechanism with today's technology

Our discussion document asked if there was additional information that regulatees felt should be reported to ECCC through FIRSTS. While we did not receive any comments specific to that question, we did hear that landowners would like to have access to the FIRSTS records that pertain to storage tank systems on their land, regardless of whether they own them or not.

Next steps

Overall, there was general support for improving the Regulations. Several key issues and challenges were raised which will be taken into consideration during ECCC's continued analysis.

The recommendation from the stock review is to amend the Regulations. Here is the link to access the result : Regulatory stock review plan 2019 to 2029: Environment and Climate Change Canada - Canada.ca. Further engagement will be aligned with future regulatory initiatives.

We would like to thank everyone who took the time and effort to provide feedback on the discussion document.

Appendix A: Questions from the Discussion Document – Review of the storage tank regulations

The questions in this Annex are the same as those in the Discussion Document.

Definitions (section 1)

1. Would removing the incorporation by reference and using the chemical names or describing product formulations in chemical terms to identify an allied petroleum product be an issue or useful?

2. Are there other allied petroleum products being used and stored that are not currently listed in Schedule 1?

3. Is the definition of “transfer area” clear?

4. Would adding more description of what is included as part of the product transfer area be helpful? If so, what else could be included?
   For example, aspects on:
   - supervision
   - direction of flow
   - volume transferred
   - speed
   - dispensing area
   - manual transfers
   - size/dimension
   - other physical components

5. Are the obligations associated with temporary withdrawal clear for implementation purposes?
   If not, would a definition of temporary withdrawal be helpful?
   And if so, what aspects could be considered?
   For example, aspects on:
   - intended usage; relocatable, seasonal, construction, etc.
   - duration

Storage tank system application (section 2)

1. What impacts would arise if all indoor STS were subject to the Regulations?

2. How are these systems managed and by whom?

3. What are the common issues with installation and operation of these systems?

4. Are these systems managed differently when they are located above 60th parallel or in remote locations?
   If so, what are the logistical challenges?
5. What impacts would arise if all STS connected to “emergency equipment” were subject to the Regulations regardless of their capacity?
6. Would a definition for “emergency generator” be helpful?
7. What are the posed by these systems, environmental or other?

General requirements (section 3 to 13)

1. What impacts may affect your ability to remove single walled underground tanks and piping?
2. What impacts may affect your ability to hire ‘’certified people or trained technicians’’ to perform repairs on faulty systems?
3. What factors may impact the removal of any accumulated surface water, snow or product that would reduce the fluid volume capacity of the secondary containment in a reasonable time?
4. What considerations should be made for regional climate variation and proximity of tanks to operators?

Compliance with requirements (design/installation, section 14)

1. Do the regulated communities face challenges with understanding the method of reference by incorporation?
   - What options would make the Regulations easier to interpret?
     Example: Less reliance on incorporation by reference
2. Are there any standards referenced that are no longer relevant?
3. Are there standards not currently referenced that would be compatible with the regulatory objective?
4. What challenges are related to the commissioning processes in coordination with other requirements part of the Regulations?
5. What impacts or conflicts may affect your ability to design and install dispensers up to the nozzle as per specific requirements to help reduce the risk of incidents and prevent contamination?
6. Are there any particular concerns or challenges with components of a system located inside a building, considering the whole system could be subject to the Regulations?
7. What criteria or standards for repurposing tanks or piping should be taken into consideration in the future policy development for the Regulations?
8. What manufactured dual purpose tanks are used in Canada? How are they being used?
9. Are there requirements that could help to reduce fire and/or environmental risks in sensitive areas (areas that contain natural features, proximity to bodies of water, etc.)?

Compliance with requirements (transfer area, section 15)

1. What is the cost associated with the design and implementation of a product transfer area?
2. What are the challenges with designing a product transfer area?
3. What type of guidance would be helpful to assist in risk managing a product transfer area?
4. Are there specific STS types where the probability of release is lower?
5. Are there restrictions related to the implementation of Section 15 prior the first transfer into the STS (For example, during design, commissioning, etc.)?

Leak detection (sections 16 to 23)

1. What challenges could be foreseen for operators and inspectors should leak detection methods be imposed for all systems?
    - STS type
    - location/accessibility
    - qualification
    - cost
2. What leak detection designs are commonly used to detect a release of a petroleum or allied petroleum product in liquid form and ensure proper monitoring?
3. What are the common maintenance and inspection programs and their frequency for both aboveground and underground tanks and their components?
4. Are the prescribed leak detection requirements in the Regulations practical and realistic?
5. What challenges might occur if annual testing of a detection monitoring system and its components is made mandatory?
6. Are there impacts with conducting corrosion analysis program?

Identification (section 28)

1. Would having a prescribed way or getting more guidance when labelling the STS be helpful? If so, what are your recommendations?
2. When there are identification changes, is the 60-day timeline sufficient? If not, please provide your rationale why the 60-day timeline is insufficient?

Delivery of petroleum products or allied petroleum products (section 29)

1. Would there be advantages or disadvantages to ensure there is a continuous supervision of the filling operations by personnel qualified to supervise such operations and document the date, time and name of the personnel?
2. When there is no supervision possible during filling operation, what could be considered to ensure filling operation is done properly to avoid releases into the environment?
3. Would prescribing that storage tanks shall not be filed beyond their safe filling level be helpful?

4. Would prescribing that standard operation procedure be in place prior to delivery be practical for the owner/operator and fuel supplier?

Emergency plan (sections 30-32)

1. What clarifications would be helpful to assist regulatees with the preparation of the emergency plan?
2. What are the administrative concerns that prevent a regulatee from adding all the descriptive information in the plan and/or to keep it up to date?
3. What is the cost associated with the development and implementation of the emergency plan?
4. Would there be an advantage to ensure a copy of the emergency plan be supplied to the local fire department?
5. Would mandatory spill kits, fire extinguishers and signage be helpful?
6. Are the emergency plan requirements in duplication with other legislations, bylaws, or codes?

Installation of storage tank systems (sections 33-34)

1. What are the most common types of drawings used during the course of a new installation project?
2. What would be the best terminology to be used when referring to a specific “drawings” during the course of a storage tank installation project?
3. Do additional terms need to be defined in the Regulations to add clarity during installation projects?
4. What is the common practice when it is time to stamp a specific drawing and who is responsible?
5. What is commonly present on record and/or as-built drawings for STS installations?
6. What is the common practice in the industry when “standalone type tanks” are installed?
    - Are design and other drawings required, if so, who signs off on them?
    - Who is authorized to install and move them?

Operations and maintenance (sections 35-40)

1. Are there other activities that can be completed on a regular basis to ensure that a system is well maintained?
2. Are there other time frames that should be considered for completing a regular inspection or other maintenance activity (i.e., for seasonal systems, upon start up)?
3. What are the best current minimum maintenance practices in the industry recommended by manufacturers?
4. Are clarifications required to assist regulatees in determining whether an OWS is part of their STR operation?
5. Are the prescribed OWS maintenance methods realistic for all regions in Canada, including remote locations?

6. What would be the challenges of including more maintenance requirements for water bottom inspections for steel tanks?
    - What would you recommend the frequency be?
7. Are there disposal challenges that ECCC should be aware of?

Release report (section 41)

1. If all releases are to be reported regardless of quantity or location, what would be the negative impact on the regulated community?

Withdrawal from service (sections 42 to 44)

1. What activities related to withdrawal from service should be considered?
    - Examples: intended usage, duration, etc.
2. Would a revision of the current timeline (less than 2 years) for when a temporary withdrawal must become a permanent withdrawal be helpful? If so, why?
3. Would exemptions, such as for research, be helpful if delays were still imposed for a maximum duration of the temporary withdrawal?
4. What would be the impact if regulatees were to report to ECCC the dates of the temporary withdrawals instead of keeping a record of them for 5 years? What would be the impact of reporting each time you temporarily withdraw a STS?
5. What are the current operational challenges to maintaining some aspects of the STS during a temporary withdrawal?
6. Would reporting additional details about the permanent withdrawal to ECCC help with data management?
    - Examples: Reason for withdrawal, confirmation if tanks, system was replaced or not, information on party performing withdrawal, etc.

Removal of storage tank systems (section 45)

1. What would be a reasonable timeline to remove the STS and or components considering remote location?
2. Would it be helpful if the certified removal person or people supervised by professional engineer prepare a withdrawal/disposal report (closure report)?
3. Would this help the owner with managing projects?
4. What would be the impact if specific details about the removal were reported to ECCC (Reason for removal, STS removal details, information on party performing tank removal)?
5. What are the challenges to physically remove a STS?
6. Under what specific circumstances and conditions would a storage tank or components be abandoned in place?
    - What is regulatees doing to prevent contamination?
    - What records are being kept for historic, further site use and insurance purposes?

Record keeping (section 46)

1. What would be the impacts if some requirements were imposed on operators to keep records of the work maintenance and service work performed on storage tank systems? If so, what would be the additional level of effort?

Schedule 2

1. What identification requirements are more challenging?
2. What reporting mechanism would be more effective and less time consuming?
3. Is there any system specific information missing that should be recorded and identified with ECCC?

Broad questions

1. Are there obstacles that may affect your ability to meet any of the regulatory requirements (maintenance, inspection, delivery, installation, etc.)?
2. Are there any areas requiring action (modification or addition) that could further contribute to managing storage tank systems more efficiently?
3. Do the Regulations prevent the use of certain equipment or industry best practices that are compatible to store products and prevent releases into the environment?
4. What measures could be taken to minimize the burden on small business without jeopardizing the environment?
5. What are the costs associated with complying with the Regulations that are beyond what is considered “normal” in the industry with respect to the costs of operating a storage tank system?
6. What improvements could be made with respect to the administrative aspects of the Regulations to reduce the burden (ex. record keeping, identification, release reporting) while still ensuring environmental protection?
7. Are there any areas that do not align with other jurisdictions?