Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations

Environmental Stewardship Branch
Environment Canada

OPCA Conference
March 4, 2010
Toronto, ON
Purpose of the Regulations

Reduce leaks into environment

Reduce impact of spill events

SOIL AND GROUNDWATER PROTECTION
Purpose of the Regulations

LEAKING UNDERGROUND PETROLEUM STORAGE TANKS
TANK LEAKAGE CAN CAUSE A NUMBER OF PROBLEMS

- Gasoline or vapour can enter sewers
- Explosive potential
- Vapour
- Contaminates surface water
- Water table
- Groundwater
- Soluble fractions of gasoline dissolve in water
- Contaminates well
Purpose of the Regulations

Soil and groundwater contamination affect our health

"Why should I care about future generations?
What have they ever done for me?"

~ Groucho Marx ~

Treat the earth well.
It was not given to you by your parents,
it was loaned to you by your children.
We do not inherit the Earth from our Ancestors,
we borrow it from our Children.

~ Ancient Indian Proverb ~
Authority

Canadian Environmental Protection Act, 1999 (CEPA)

• Government of Canada’s primary legislation for control of harmful substances in the environment

• Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations created under Section 209 of CEPA, 1999

  • Maximum penalties include fines of up to $1 million a day for each day an offence continues, imprisonment for up to three years, or both.

  • Enforcement tools range from warnings to prosecutions.
The application of the Regulations

1. Aboveground and underground storage tank systems

2. Petroleum products and allied petroleum products

3. Selected Federal House (CEPA 1999, s. 207(1))
   • Federal departments, boards and agencies
   • Crown corporations
   • Airports, railways and ports
   • Federal lands and Aboriginal lands
Application

Which systems are covered by the Regulations?

• All underground storage tank systems

• For aboveground storage tank systems:
  ▪ outdoor and connected to a heating appliance or emergency generator tanks larger than 2500 liters*
  ▪ all other outdoor tanks

*2500 liters = 550 Imperial Gallons
Application

Exceptions s.2(2)

• Indoor storage tank systems
• Unprocessed petroleum products
• Tanks lesser than or equal to 2500 liters in capacity AND connected to heating appliance or emergency generator
• Tank systems regulated under the National Energy Board Act or the Canada Oil and Gas Operations Act
Responsibility

Roles of owner / operator:

• Addressing out-of compliance issues
• Installation as per requirements
• Identification / record keeping
• Leak detection
• Withdrawal of systems
• Operation / maintenance
• Spill responses/emergency planning
Responsibility

Suppliers’ responsibilities...

- Not transfer products into storage system unless ID visible and record ID
- Immediately notify the operator of spill or leak
Definitions

Definition: Storage tank

- Closed container
- Capacity larger than 230 liters (227 liters = 50 Imperial gallons)
- Designed to be installed in a fixed location
Definitions

Definition: Storage Tank System

- One or more commonly connected tanks and components:
  - Piping and vents
  - Pumps and sumps
  - Diking
  - Overfill protection devices
  - Spill containment devices
  - Oil water separators
Overview of the Regulations

- Withdraw leaking systems
- Remove 'high risk' systems
- Mandatory compliance with technical requirements for 'new' systems
- Leak detection for components without secondary containment
- Identification with EC
- Containment of spills at product transfer areas
Overview cont’d...

- Transfer of product to ID'd systems only
- Emergency plans
- Approved installers
- Operation and maintenance requirements
- Spill reporting
- Record keeping
Overview of the Regulations

What is the identification process?

- Identify storage tank system to EC:
  - Before first fill for new tank systems
  - Before June 12, 2010 for existing tank systems
    - If tank systems not all identified by June 12, 2009, then the owner must submit a progress report to EC
  - On-line, or mail or Fax (819-953-7253)
  - Receive ID number from EC
  - Display ID number on or near tank system
Overview of the Regulations

On-line

“FIRSTS”

Welcome to the Federal Identification Registry for Storage Tank Systems

The Federal Identification Registry for Storage Tank Systems (FIRSTS) is Environment Canada’s inventory of storage tank systems of the federal house. All storage tank systems covered by the regulation must be identified to this system. For example, system of less than 2500 L connected to an emergency generator or heating appliance are not covered.

You will need to be issued an account to identify a tank system to FIRSTS or view an existing system on FIRSTS. To obtain an account please e-mail a request to tankregistry@ec.gc.ca with “Account” in the subject line.

When identifying a tank system to FIRSTS for the first time this system will generate a unique identification number for your tank system once the information for a regulated tank system is complete.
## Overview of the Regulations

### Mail or FAX

### Hard Copy

**Remember:** no ID = no delivery to new systems now, no delivery to existing systems effective June 12, 2010

### Environment Canada Use Only

<table>
<thead>
<tr>
<th>ID Number</th>
<th>Date Received</th>
<th>Date Entered</th>
<th>Entered By</th>
<th>Comments</th>
</tr>
</thead>
</table>

### Part I: Purpose of Notification

- Identification of new (not previously registered) system
- Temporary withdrawal (Part I)
- Change in tank contents (Part I)
- Change in system (e.g., upgrade) (Part I)
- Permanent withdrawal and removal (Part I)
- New owner/operator (Part II & III)
- Other (Specify) (Part II & III)

### Part II: Ownership of Tank System

<table>
<thead>
<tr>
<th>A. Owner Name</th>
<th>B. Owner Address (include: City, Province/Territory, Postal Code)</th>
<th>C. Name of Contact Person</th>
<th>D. Title of Contact Person</th>
</tr>
</thead>
</table>

### Part III: Location of Tank System

<table>
<thead>
<tr>
<th>E. Phone Number</th>
<th>Fax Number</th>
<th>F. E-mail Address</th>
<th>G. Name of Previous Owner (if applicable)</th>
<th>H. Facility Name</th>
</tr>
</thead>
</table>

*Note: One form per storage tank system. Mailing instructions on last page.*
Overview of the Regulations

Leaking systems

– A system that leaks must be withdrawn from service immediately

– After repairs and leak detection, system may be returned to service

  OR

– Removed
Overview of the Regulations

High-risk systems

- Leaking single-walled underground tanks and piping
  
  **Withdraw from service now and remove by June 12, 2010***

- Aboveground tanks installed underground
- Underground tanks installed aboveground
- Partially buried tanks
- Single-walled underground tanks without corrosion protection and leak detection
- Single-walled underground piping without corrosion protection and leak detection

**Permanent withdrawal & removal is required by**

**June 12, 2012**
* If you have an existing single-walled underground storage tank system that isn’t leaking, you may keep it in service for the life of the system, as long as it has existing (as of June 12, 2008):

• leak detection and
• corrosion protection
New Systems

What are the design requirements for new systems?

- ASTs, USTs, and piping in accordance with clauses from CCME Code of Practice
- Tank system design stamped and signed by a professional engineer
New Systems

What are the installation requirements for new systems?

• System installation by:
  – provincially approved installer, where applicable
  – If not applicable, supervised by a professional engineer

• As-built drawings stamped and signed by a professional engineer
Product Transfer Areas

Product Transfer Areas – s.15

- Designed to *contain spills*
- Applies to storage tank systems larger than 2500 liters
- Applies June 12, 2012
Leak Detection

What are the leak detection requirements?

For existing tanks or piping that is single-walled:
- one-time leak detection test by June 12, 2010, followed by various options for continuous leak detection
Emergency Plans

Considerations for preparation of emergency plans s. 30(1)

- Properties and characteristics of product(s)
- Max. quantity product(s) stored at one time
- Characteristics of site and surrounding area
  - Sensitivity of environment or human health risks
Release Reporting

Spill reporting requirements s.41

– Verbal notification as soon as possible
– Written follow up for spills 100 liters or larger

Will Use Existing Spill Reporting Lines Across Canada

In Ontario – Spills Action Centre
1-800-268-6060
Record Keeping

ID & New installations

- ID of system  s.28(2)
  - Information and certification  Schedule 2

- Design and construction records
  - Installer or supervision by professional engineer  s.33(2)
  - Design plans, drawings & specifications  s.34(1)
  - As-built drawings  s.34(2)

* Must be retained until system removed
Critical timelines

**June 12, 2008**
- Leaking storage tank systems must be withdrawn from service
- Release reporting for all systems
- Technical requirements for all new systems
- Product transfer area requirements for all new systems
- Emergency plans in place for all new systems

**June 12, 2009**
- Storage tank systems identified to EC
- Progress report to EC for all systems not identified
Critical timelines

June 12, 2010

- All systems now identified to EC and display an ID number
- Emergency plans in place for all systems
- Product delivered only to systems that have ID displayed
- Initial prescribed leak detection test completed on all single-walled USTs and u/g piping, all ASTs and a/g piping without secondary containment, and all sumps
- Ongoing leak detection or monitoring programme in place for all single-walled USTs and u/g piping, all ASTs and a/g piping without secondary containment and all sumps
Critical timelines

June 12, 2012

- All "high-risk" systems removed
- Spill containment at product transfer areas in place for all systems
Available resources

Useful websites


• National Fire Code of Canada [http://www.nationalcodes.ca/nfc/index_e.shtml](http://www.nationalcodes.ca/nfc/index_e.shtml)
Available Resources – Ontario & HQ

Aaron Dornan, Environment Canada Headquarters – Gatineau  
[aaron.dornan@ec.gc.ca](mailto:aaron.dornan@ec.gc.ca)  
(819) 934-2991

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Tanks a lot!