



Making a difference...together

Environmental Regulations & Best Management Practices

Dry Cleaning Operations
in the Capital Regional District



This manual is published by the Regional Source Control Program.
For more information please call 250.360.3256 or
visit the CRD website at www.crd.bc.ca

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Introduction

About this Guidebook

This guidebook has been developed to help businesses interpret the Capital Regional District's (CRD) Code of Practice for Dry Cleaning Operations. The code is set out in full in Schedule J of the CRD Sewer Use Bylaw. To read it in its entirety, visit www.crd.bc.ca/sourcecontrol.

The Regional Source Control Program

The CRD's Regional Source Control Program is a pollution prevention initiative focused on reducing the amount of contaminants that enter our sanitary sewer system and waterways.

Based on the premise that controlling these contaminants at the source is more effective than treating pollution after the fact, the Source Control Program has established 11 Codes of Practice that govern over 2,500 Capital Region businesses in various industries, including dry cleaning. The Codes of Practice are designed to ensure that the CRD's Sewer Use Bylaw is applied consistently to businesses throughout the region.

Since it was introduced, the Source Control Program has seen dramatic, positive results: a five-year review conducted in 2005 showed that levels of contaminants in municipal wastewater had decreased significantly since the first codes were introduced.

The Code of Practice for Dry Cleaning Operations

In 1999, the CRD introduced a Code of Practice governing dry cleaning businesses. This Code of Practice was revised in 2004 to reflect new dry cleaning regulations introduced by the federal government.

Adherence to the code is mandatory for all Capital Region dry cleaners that use tetrachloroethylene. Please ensure that you and your staff fully understand and follow the current code. Your compliance will help protect public health and the health of our environment.

By following the code, you will also realize a number of other benefits: reduced solvent loss, increased recovery of recyclable materials, improved operating performance, better workplace environment, and a lower risk of liability.

Why is Dry Cleaning Waste a Concern?

Tetrachloroethylene – also known as perchloroethylene, PCE or, most commonly,

PERC – is a solvent used regularly in dry cleaning. Unfortunately, PERC is identified in the **Canadian Environmental Protection Act** as a toxic substance; it is believed to be harmful to public health and the environment.

Tetrachloroethylene usually enters the environment by evaporating into the air during use. It can also enter the air, soil, and water when sewage sludge is being disposed of or when leaks and evaporation occur at storage sites.

Exposure to high levels of tetrachloroethylene can cause eye, nose and skin irritation as well as dizziness, headache, nausea, liver and kidney damage – even unconsciousness and death. When introduced into the environment, it contaminates the soil and the water. Tetrachloroethylene is therefore considered hazardous waste, and it must be dealt with appropriately.

Government Regulatory Requirements

While the use of PERC is allowed in Canada, regulations have been developed at all levels of government in order to reduce its release into the environment. Overall, these regulations require dry cleaners that use PERC to:

- use newer, more efficient machines.
- minimize spills.
- manage the collection and disposal of residue and wastewater.

In most cases, the various government regulations are parallel. Please note, however, that you are responsible for understanding and adhering to every regulation set out by each level of government.

a) Federal Regulations

Environment Canada enforces the Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations under the **Canadian Environmental Protection Act**. To download a copy of this federal regulation, visit www.ec.gc.ca/CEPARRegistry/regulations. For more information on the federal regulation, visit the Environment Canada website at www.pyr.ec.gc.ca/dryclean, or contact:

Celia Wong
Pacific & Yukon Region
Environmental Protection Branch
Environment Canada Inquiry Centre
401 Burrard St., Suite 201
Vancouver, BC V6S 3C5
phone: 1-800-668-6767
email: enviroinfo@ec.gc.ca
fax: 604-666-6800

b) Provincial Regulations

Provincial regulations for the management of PERC are set out by both the BC Ministry of Environment and the Workers' Compensation Board of British Columbia. For more information on these provincial regulations, visit the British Columbia government and Workers' Compensation Board websites at www.gov.bc.ca and www.worksafebc.com.

c) Regional Regulations

In addition to federal, provincial, and regional regulations (CRD Sewer Use Bylaw), your business may also be subject to regulations enforced by your municipal government. For information, please contact your local municipality.

Mandatory Requirements

The CRD's Code of Practice for Dry Cleaning Operations

The Code of Practice for dry cleaners governs the discharge of dry cleaning waste into the sewer system. It applies to those dry cleaners in the Capital Region that use PERC in their operations. Those that do not use PERC are not subject to the code, but must follow the general requirements of the Sewer Use Bylaw.

The first version of the Code of Practice was introduced in 1999. By now, your business should have the basic required treatment works and waste management practices in place. Please note, however, that the code has since been revised (2004). You should familiarize yourself with the current version, as you are responsible for updating your practices as required.

Compliance with the Code of Practice entails these basic steps:

1. Manage your wastewater by:
 - a) **installing the appropriate treatment works**
 - or**
 - b) **hiring a waste management company to dispose of or recycle your PERC waste.**
2. Install spill containment systems.
3. Maintain records.

Each of these requirements is explained on the following pages.

STEP 1: Manage Your Wastewater

Wastewater containing PERC must be treated before it can be released into the sewer system.

You may choose to treat your PERC-laden wastewater onsite or to have it treated off site. If you decide to treat it onsite, you must install the appropriate wastewater treatment works. If you decide to treat it off site, you will need to hire a waste management company to dispose of or recycle your wastewater.

a) On-Site Wastewater Management

i) Installing Treatment Works

If you choose to manage your wastewater onsite, the Code of Practice requires that you use a series of separators and filters to thoroughly treat it before it is discharged to the sanitary sewer. Your treatment works must include the following components installed in the following precise sequence:

1. the dry cleaning machine's own tetrachloroethylene-water separator
2. a second tetrachloroethylene-water separator
3. an initial filter containing activated carbon, to remove the PERC from the wastewater after it exits the second separator
4. a PERC monitor-alarm with automatic shut-off, to stop the flow to the sewer when the initial filter becomes saturated with PERC
5. a second filter containing activated carbon installed prior to the point of discharge to the sanitary sewer, to remove any residual PERC from the wastewater

In addition, you must equip the outlet from your treatment works with a monitoring point. The monitoring point must be:

- easily accessible.
- located upstream from the point at which any other waste is discharged.
- the same diameter as the treatment works' outlet pipe.
- placed so that it opens at a right angle and horizontal to the flow in the sewer pipe.
- controlled by a hose bib or valve.

ii) Inspecting and Maintaining Treatment Works

If you manage your wastewater onsite, you must conduct daily inspections and perform regular maintenance on your treatment works. In addition to protecting the environment, regular inspections can help you to spot leaks early, thus preventing the loss of valuable PERC and saving you money.

Tetrachloroethylene-Water Separators

Each day, you must visually inspect all tetrachloroethylene-water separators to ensure that the level of PERC has not reached the separators' wastewater outlets. You must clean the separators at least once per week, or as soon as the level of PERC reaches the wastewater outlet.

To clean a separator:

1. stop the treatment works to prevent any PERC from being discharged from the separator.
2. clean the separator according to the manufacturer's recommendations.
3. return the PERC from the separator to the solvent recovery system, or collect it and store it for off-site waste management.

Activated Carbon Filters

You must replace both the initial and second activated carbon filters each year, or sooner if:

1. the PERC monitor-alarm has been triggered.
2. the concentration of PERC being discharged from the second activated carbon filter reaches 0.10 mg/L, or
3. more frequent replacement is recommended by the manufacturer or supplier.

b) Off-Site Wastewater Management

i) Hiring a Waste Management Company

If you choose to manage your wastewater off site, you must hire a wastewater management company to transport and treat your waste. Companies specializing in wastewater management can be found in the "Contacts" section of this guide or in the Yellow Pages.

ii) Storing your Waste

While wastewater is on your premises, you must store it carefully. All containers holding residue and wastewater must be kept in a secure containment area.

STEP 2: Install Spill Containment Systems

Whether you choose to treat your wastewater onsite or off site, spills can occur. By using spill containment systems and having a spill response plan in place, though, you can prevent spilled PERC from entering the sewer system.

Spill Containment Systems

You must install two basic spill containment systems – one around dry cleaning machines and treatment works, and another in all storage areas where PERC, PERC-contaminated residue, or untreated wastewater are kept.

All spill containment systems must be made of materials impermeable to PERC, like corrosion resistant steel and stainless steel. Cement floors are not effective in containing spills; PERC can pass through cement and seep into groundwater, creating a contaminated site.

Your spill containment system must cover the entire surface under each dry cleaning machine, tank, or container that holds PERC, wastewater, or PERC-contaminated residue. It must also be large enough to hold at least 110% of the capacity of your largest tank or container.

Finally, your spill containment system must not be in the proximity of any open drains. If there are drains located within your containment area, seal them tightly with PERC-resistant plugs.

Spill Response Plans

All dry cleaning businesses must prepare a spill response plan. New businesses have 30 days after opening to have a plan in place. Your plan must be posted onsite in a conspicuous location, and all supplies identified in the plan – including PERC-resistant drain plugs – must be readily available for use at all times. If a spill occurs, you must carry out your response plan as soon as it is safe to do so. The following Spill Response Plan is generic and is an example of what should be included in your plan. Your spill response plan should reflect your operation and may differ from the example.

Example of a Spill Response Plan

Tetrachloroethylene (Perc) Spill Response Plan

WARNING! Tetrachloroethylene is harmful if swallowed or inhaled. Affects heart, central nervous system, liver and kidneys. Causes severe skin irritation. Causes irritation to eyes and respiratory tract. May cause cancer.

First Aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call 9-1-1.

Ingestion: Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Call 9-1-1.

Skin Contact: Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Call 9-1-1. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call 9-1-1.

Note to Physician: Do not administer adrenaline or epinephrine to a victim of chlorinated solvent poisoning.

Protective Equipment

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles and/or a full face shield where splashing is possible.

Example of a Spill Response Plan

Spill Cleanup Measures

- Ventilate area of leak or spill. Use water spray to contain vapours. Collect all contaminated water.
- Remove all sources of ignition. Use non-sparking tools and equipment.
- Wear appropriate personal protective equipment as specified above.
- Isolate hazard area. Keep unnecessary and unprotected personnel from entering.
- Use Tetrachloroethylene-resistant plugs to seal off all floor drains within the spill area.
- Contain and recover liquid when possible. Spills within the spill containment systems can be recycled back into the treatment system.
- Collect liquid in an appropriate container or absorb with an inert material (e.g., vermiculite, dry - sand, earth), and place in a chemical waste container. Do not use combustible materials, such as sawdust. Dispose of contaminated wastewater and absorbent materials at a licensed waste treatment facility. See below.
- Report large spills that are outside of the containment area. See below.
- Do not flush to sewer!
- Do not dispose with general refuse (garbage).

Location of Personal Safety Equipment: _____

Location of First Aid Kit: _____

Location of Eye Wash Station: _____

Location of Spill Response Materials: _____

Emergency Phone Numbers and Contacts

For First Aid Call 9-1-1

BC Provincial Emergency Program (PEP) 24hr spill reporting	1.800.663.3456
SPL Wastewater Recovery	250.391.7892
CRD Hotline	250.360.3030
CRD Source Control Program	250.360.3256

STEP 3: Maintain Records

Whether you manage your wastewater onsite or off site, you are required to maintain careful records detailing your activities. You must retain all records for five years and make them available for inspection by CRD staff upon request.

If you choose to manage your wastewater onsite, you must keep records of all maintenance and inspections carried out on your treatment works. Your records must include:

- inspection date.
- description of inspection performed.
- maintenance date.
- description of maintenance performed.
- amount of activated carbon removed and replaced.
- date and volume of materials (such as sludge; contaminate PERC) removed.

If you choose to manage your wastewater off site, you must maintain records of all disposal and recycling services you use to deal with your PERC-contaminated wastewater and residue. Your records must include:

- full contact information (name, address, and telephone number) for each disposal company, recycling company, or facility.
- location to which the material is taken (including full contact information, if different from that given above).
- type of material taken off site.
- volume of material taken off site.
- date material is taken off site.

The following Inspection and Maintenance Record forms are generic and are examples of what should be included in your records. Your record forms should reflect your operation and may differ from the examples.

Best Management Practices

In addition to the mandatory requirements set out in the Code of Practice, the CRD encourages businesses to adopt Best Management Practices, or BMPs. BMPs are recommended activities that will help you to save time, money, and the environment. Generally, BMPs help businesses to:

- **minimize the use of toxic materials.**
- **minimize the production of toxic by-products.**
- **reuse, recycle, treat, or contain toxic by-products when they occur.**

As the operator of a dry cleaning business, you can take advantage of several opportunities to exercise Best Management Practices.

a) Develop an Emergency Plan

All dry cleaning businesses should have an emergency plan in place to deal with spills, leaks, fires, and evacuation. Employees should be trained in these emergency procedures, as well as in the safe handling of chemicals. All relevant information should be posted in a conspicuous place near areas where chemicals are stored and used. Your emergency plan should include:

- **spill procedures – how to contain a spill, who to notify, how to clean it up and dispose of it, and what follow-up should be pursued.**
- **data sheets detailing the safe handling of chemicals.**
- **evacuation procedures.**
- **emergency contact information.**
- **emergency equipment and protective gear and the location of each item.**

b) Reduce Spills and Leaks

A few simple precautions can prevent most spills and leaks:

- Don't store solvents in open or leaky containers.
- Pipe reclaimed solvent directly into a solvent storage tank.
- Keep machines and chemical storage areas clean and well-maintained.

c) Adopt Environmentally Friendly Business Practices

- i) Purchase with care. Choose products with less packaging and those made from recycled materials.
- ii) Recycle as much of your non-hazardous waste as possible:
 - clothes hangers
 - paper
 - aluminium cans
 - newspaper
 - glass
 - cardboard
 - plastic containers

If recycling is not available in your building, encourage your building manager to provide facilities.

For More Information



SUBJECT	CONTACT	TELEPHONE and/or WEBSITE ADDRESS
BC Ministry of Environment	BC Ministry of Environment	www.gov.bc.ca
Capital Regional District	CRD Regional Source Control Program	250.360.3256
Commercial Chemicals Division		604.666.9862
CRD Code of Practice for Drycleaning Operations	Sewer Use Bylaw, Schedule J	www.crd.bc.ca/sourcecontrol
CRD Hotline		250.360.3030 hotline@crd.bc.ca
Environment Canada		http://ec.gc.ca/regs-tetra
Environmental Protection Branch Pacific & Yukon Region	Celia Wong	401 Burrard St., Suite 201 Vancouver, BC V6S 3C5 604.666.9862 DryClean-PYR@ec.gc.ca
Provincial Emergency Program (PEP)	Doug Marshall	800.663.3456
SPL Wastewater Recovery Center	Check the Yellow Pages for additional sources.	250.391.7892
Vancouver Island Waste Haulers' Association	Doug Marshall	250.478.9187
Workers' Compensation Board of British Columbia		888.621.7233 866.922.4357 www.worksafebc.com