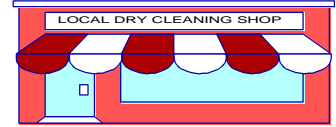


# **Plain English Guide for the Dry Cleaners**

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**Step By Step Approach to Understanding Federal  
Environmental Regulations**

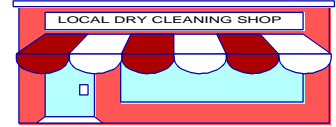


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# Part I: Summary of environmental regulations that apply to perc dry cleaners

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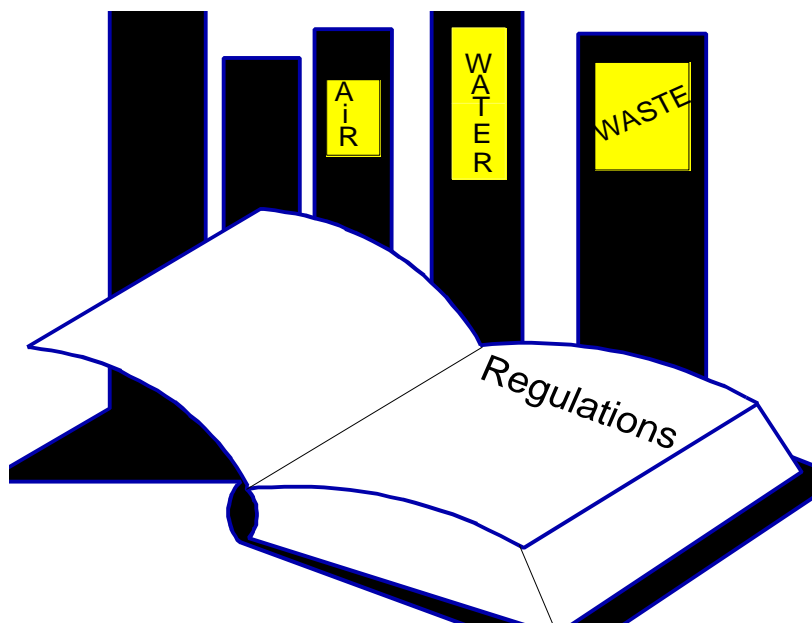
## **Section A: Introduction**

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The first part of this handbook provides a simplified version of the national environmental regulations that apply to perc dry cleaners.

**Section I-B** presents a summary of the air regulations.

**Section I-C** presents a summary of the hazardous waste regulations, and **Section I-D** presents a summary of the waste water regulations. Keep in mind that these summaries present only the federal regulations. Your state or local area may require additional regulations. Your EPA Regional office contact listed in **Appendix A** can assist you in identifying your state and local contacts to learn if your state or area has its own additional requirements.





## **Section B: Plain English version of NESHAP**

In September, 1993, the U.S. Environmental Protection Agency (EPA) issued national regulations to control air emissions of perchloroethylene (perc) from dry cleaners. The rule, in the form of a national emission standard for hazardous air pollutants (NESHAP) for perc dry cleaning facilities, was published in the September 22, 1993 edition of the Federal Register (volume 58, page. 49354). The regulation affects all dry cleaners that use perc.

### **Pollution Prevention**

All perc dry cleaners must follow these **Pollution Prevention** steps:

- Inspect all equipment at least every other week for leaks that are obvious from sight, smell, or touch. Larger dry cleaners (those required to install control equipment) must inspect every week. Repair all leaks by specific time limits.
- Follow these **Good Housekeeping Practices**:
  - Keep all perc wastes in covered containers with no leaks
  - Drain all cartridge filters in closed containers
  - Keep machine doors closed when not being loaded or unloaded.
- Operate and maintain all equipment according to manufacturers' instructions.
- Keep a **log** of:
  - Leak detection and repair program results
  - Amount and date of perc purchases (at any time know how much perc you purchased during the previous 12 months).

### **Air Control Requirements**

The air control requirements for your dry cleaning facility depend upon the **installation date** of your dry cleaning machines, the **type** of dry cleaning machines you use (dry-to-dry or transfer), and the **amount of perc you purchase each year**.

The date of installation determines if your dry cleaning machine is "**new**" or "**existing**." Dry cleaning machines installed before **December 9, 1991**, are considered "**existing**." Machines installed on or after December 9, 1991, are considered "**new**." Note: any machine or facility that was originally installed before December 9, 1991, that has changed ownership or location is considered "existing." If an existing machine has changed ownership it is important to maintain records that prove its original installation occurred before December 9, 1991.

The amount of perc purchased for your facility determines if your facility is a major, a large area, or a small area facility. When the amount of perc purchased by a facility exceeds certain limits, the facility is a major facility and must install perc vapor recovery systems on each "**existing**" machine. If the





major facility operates transfer machines, an additional control requirement is to install a room enclosure around each transfer machine and vent the room enclosure to a carbon adsorber. Room enclosures cannot be vented to refrigerated condensers.

When the amount of perc purchased by a facility is less than a certain limit, the facility is a small area facility and does not have to install perc vapor recovery systems on existing machines.

The remaining facilities that purchase less perc than major facilities but more than small area facilities are large area facilities. Large area facilities must install perc vapor recovery systems on each existing machine also.

Dry cleaning facilities with existing transfer machines that purchase over 1,800 gallons of perc per year must install a room enclosure around each transfer machine and vent the room enclosure to a carbon adsorber. Room enclosures cannot be vented to refrigerated condensers.

See **Table I-1** for a summary of the control requirements for existing machines and perc purchase limits.

All "**new**" dry cleaning machines must be dry-to-dry machines equipped with at least a refrigerated condenser as a perc vapor recovery device. In addition, facilities that purchase over 1,800 gallons of perc annually with any transfer machines, or facilities that purchase over 2,100 gallons of perc annually with just dry-to-dry machines are required to use a carbon adsorber with the refrigerated condenser on the new

dry-to-dry machine. "New" transfer machines cannot be installed, and "new" carbon adsorbers cannot be used without also using a refrigerated condenser for required perc vapor recovery.

### **Air Compliance and Reporting Requirements**

All perc dry cleaners must be in compliance with the pollution prevention requirements in the NESHAP now. All facilities should have sent the EPA a **Initial Notification Report** and **Pollution Prevention Compliance Report** by **June 18, 1994**, stating how they were complying with the pollution prevention requirements. All new facilities must comply with all requirements upon start-up. They must also submit a **Compliance Report** within **30 days after start-up**. Your facility must also submit a report **each time the facility undergoes a change that would affect its compliance** with the NESHAP, including: (1) an increase in annual perc purchases that makes a small source a large source, or that requires the use of a room enclosure or additional carbon adsorber; (2) a change in ownership or address of the facility; or (3) the purchase of new equipment.

For "**existing**" machines, refrigerated condensers are not required until **September 22, 1996**. "**New**" machines must be equipped with these systems upon startup.

Refrigerated condensers used for NESHAP compliance must cool the vapor down to at least 45 degrees Fahrenheit at the end of each dry cleaning cycle. Carbon adsorbers used for NESHAP compliance must not release more than 100 parts per



**TABLE I-1  
AIR CONTROL REQUIREMENTS FOR DRY CLEANERS WITH EXISTING  
MACHINES ARE BASED ON PERC PURCHASES**

Small Area Dry Cleaners	Large Area Dry Cleaners	Major Dry Cleaner
<b>Dry-to-Dry Machines ONLY: Less than 140 gal/yr OR Transfer Machines ONLY: Less Than 200 gal/yr OR Transfer AND Dry-to-Dry Machines: Less Than 140 gal/yr*</b>	<b>Dry-to-Dry Machines ONLY: 140 to 2,100 gal/yr OR Transfer Machines ONLY: 200 to 1,800 gal/yr OR Transfer AND Dry-to-Dry Machines: 140 to 1,800 gal/yr *</b>	<b>Dry-to-Dry Machines ONLY: More Than 2,100 gal/yr OR Transfer Machines ONLY: More Than 1,800 gal/yr OR Transfer AND Dry-to-Dry Machines: More Than 1,800 gal/yr*</b>
No control equipment	Refrigerated condenser or existing carbon adsorber	Refrigerated condenser or existing carbon adsorber**  Where refrigerated condenser used on existing transfer machines, room enclosure required

\*Usage is based upon the total amount of perc purchased at facility location for all perc machines for the previous 12 months.

\*\*Only adsorbers in place before September 22, 1993, can be used.

million perc out of the stack. A test to check these limits must be performed weekly. For new, major sources that use a carbon adsorber with a refrigerated condenser on a dry-to-dry machine, the exhaust must pass through the carbon adsorber before the machine door is opened. A concentration of 300 ppm to an accuracy of  $\pm 75$  ppm by volume must be measured inside the machine drum. The test for the concentration of perc from carbon adsorbers is performed with a colorimetric detector test kit, available through dry cleaning trade associations and vendors. The refrigerated condenser and carbon adsorber tests are not required until **September 22, 1996**. However, if you submit a compliance report stating that you are in compliance with this part of the NESHAP **before** 1996, then you must begin testing immediately. These

compliance reports for existing machines are not due until October 22, 1996.

**State and Local Regulations**

Existing state and local regulations in effect prior to the NESHAP continue to apply. The NESHAP is the minimum emission control required nationally. If state or local requirements are more strict, you must comply with them.



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## **Section C: Plain English version of standards for hazardous waste generators**

### **Introduction and Background**

All perc dry cleaning facilities generate/produce hazardous waste. All facilities generating hazardous waste are regulated. The regulations are found in the Code of Federal Regulations under 40 CFR part 262. These requirements cover the generation, transportation, and management of hazardous waste. The amount of waste generated by a facility determines which Federal Resource Conservation and Recovery Act (RCRA) regulations apply to that facility. All perc dry cleaners generating hazardous waste should contact their state dry cleaning/laundry trade association and/or their state hazardous waste office to determine whether their state has additional or more stringent hazardous waste requirements. Your EPA regional contact (see **Appendix A**) can supply you with your state contact.

### **Types of Hazardous Waste**

Perc dry cleaners commonly produce three types of hazardous waste: (1) **still residues from solvent distillation**, (2) **spent filter cartridges contaminated with perc**, (3) **process water (such as separator water) that is stored before filtration and sewerage**, and (4) **cooked powder residue**.

Cooked powder residue, still residues, process water, and spent cartridge filters containing perchloroethylene (tetrachloroethylene) or valclene are

“listed” hazardous wastes and have the EPA Hazardous Waste Number F002.

### **Applicability**

The monthly amount of hazardous waste generated at a facility determines which requirements apply to that facility. Hazardous waste generators are divided into three categories, large quantity generators (LQGs), small quantity generators (SQGs) and conditionally exempt small quantity generators (CESQGs). The quantity of hazardous waste generated each month and the cumulative amount of hazardous waste accumulated at the facility at any time determines which category a facility belongs to. The three categories of hazardous waste generators are listed in **Table I-2**.

### **Requirements for Hazardous Waste Generators**

Requirements for hazardous waste generators cover the storage and handling, treatment, and disposal of the waste, from the time the hazardous waste is generated until its final disposal. The generator is responsible for all steps. **Table I-3** provides a summary of the hazardous waste generator requirements found in 40 CFR part 262 that apply to each category of generator. The requirements in **Table I-3** are the minimum Federal requirements.



**STATE AND LOCAL  
GOVERNMENT MAY HAVE  
MORE STRINGENT  
REQUIREMENTS, AND DRY  
CLEANERS SHOULD  
CONTACT THEIR STATE AND LOCAL AIR  
AGENCY FOR MORE INFORMATION.**





**TABLE I-2  
CATEGORIES OF HAZARDOUS WASTE GENERATORS**

<b>GENERATOR CATEGORY</b>	<b>MONTHLY HAZARDOUS WASTE GENERATION RATE</b>
Conditionally Exempt Small Quantity Generator (CESQG)	220 pounds (100 kg) or less per month
Small Quantity Generator (SQG)	Greater than 220 pounds (100 kg) but less than 2,200 pounds (1,000 kg) per month
Large Quantity Generator (LQG)	2,200 pounds (1,000 kg) or more per month

**Monthly Weight Limits**

This limit is the measured amount (by weight) of hazardous waste generated at each facility per calendar month. It includes all the hazardous wastes that are generated at the facility. The monthly quantity of hazardous waste generated at a facility determines the applicable requirements.

**Maximum On-site Weight Limits**

This is the total weight of hazardous waste that can be accumulated at any time at a dry cleaning facility before it must be shipped off site. Exceedance of the accumulation limits can cause a facility to change generator categories and, therefore, change the applicable regulatory requirements.

**Hazardous Waste Storage Near Point of Generation**

A satellite accumulation area is an area near the point of hazardous waste generation where limited amounts of hazardous waste can be stored temporarily. Satellite accumulation provisions apply only to SQGs

and LQGs and allow a generator to accumulate up to 55 gallons of hazardous waste in properly labeled containers at or near its point of generation and under the control of the operator of the process generating the waste. Once the quantity of waste stored in the container(s) has exceeded 55 gallons, the container(s) must be dated. The generator then has 72 hours to remove the container(s) from the satellite accumulation area and to place them in an approved hazardous waste accumulation or storage area.

**Definitions**

EPA Identification Number--an EPA identification (I.D.) number obtained by all SQGs and LQGs for each facility before shipping any hazardous waste. The number is obtained by filling out a Federal "Notification of Hazardous Waste Activity" form (EPA form 8700-12). Some states also require CESQGs to obtain an identification number. Owners/operators should contact their state hazardous waste office to request the appropriate form(s).



**TABLE I-3  
SUMMARY OF HAZARDOUS WASTE GENERATOR REQUIREMENTS FOR PERC DRY CLEANERS  
IN 40 CFR 262**

REQUIREMENT	TYPE OF HAZARDOUS WASTE GENERATOR		
	Conditionally Exempt Small Quantity Generator (CESQG)	Small Quantity Generator (SQG)	Large Quantity Generator (LQG)
<b>Monthly Weight Limits</b>	≤ 220 pounds (100 kg)	220 - 2,200 pounds (100 - 1,000 kg)	≥ 2,200 pounds (1,000 kg)
<b>Maximum On-Site Weight Limits</b>	≤ 2,200 pounds (1,000 kg)	≤ 13,200 pounds (6,000 kg)	No limit
<b>Maximum On-Site Time Limits</b>	None	≤ 180 days or ≤ 270 days if TSDF is over 200 miles away	≤ 90 days
<b>EPA I.D. Number</b>	Not federally required	Required	Required
<b>Uniform Hazardous Waste Manifest</b>	Not federally required	Required	Required
<b>Exception Reports</b>	Not federally required	Report within 60 days	Contact transporter and TSDF within 35 days, submit report within 45 days
<b>Biennial Report</b>	Not federally required	Not Required	Required
<b>Contingency Planning and Notification</b>	Not federally required	Basic plan	Full plan required
<b>Container Maintenance Requirements</b>	Not federally required	Basic requirements with technical standards for tanks and containers	Full compliance with management of tanks, containers, or drip pads
<b>Personnel Training</b>	Not federally required	Basic training required	Required
<b>Type of Facility Required for Off-Site Management of Waste</b>	State-approved solid waste facility <sup>a</sup> or RCRA permitted/interim status facility	RCRA permitted/ interim status facility	RCRA permitted/interim status facility

Maximum On-Site Time Limits--the amount of time that hazardous waste can accumulate on site before it must be removed. For CESQGs there is no time limit for accumulation.

Uniform Hazardous Waste Manifest--a multi-copy shipping document. It must accompany each hazardous waste shipment to ensure the hazardous waste arrives at its final destination. This manifest is required for

SQGs and LQGs. Although manifests are not required for CESQGs, they are recommended.

Exception Reports--reports that indicate a missing return copy of the hazardous waste manifest. The final destination receiving the hazardous waste is required to send a copy of the uniform hazardous waste manifest to the hazardous waste generator. An SQG must file an



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exception report with the EPA or state if the return copy of the hazardous waste manifest is missing.

Biennial Report--must contain information on the activities from the previous year, such as EPA ID number, name, and address of each treatment, storage, and disposal facility (TSDF) where waste was sent during the year and a description of efforts that year to reduce toxicity and volume of hazardous wastes generated (i.e., waste minimization efforts). Large quantity generators must submit a biennial report (EPA form 8700-13A) on March 1 of each even numbered year to the Regional EPA office.

Container Maintenance Requirements--apply to any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled (e.g., 55-gallon drums containing perc hazardous waste). Several requirements regulate how containers of hazardous waste must be managed.

Contingency Planning and Notification--needs to be prepared in case an accident happens. These requirements apply to LQGs. Only requirements for a basic plan apply to SQGs.

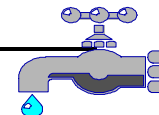
Personnel Training--The requirements for SQGs indicate that the generator must ensure all employees are familiar with proper waste handling and emergency procedures that are relevant to their responsibilities during normal facility operations and emergencies.

Type of Facility Required for Off-site Management of Waste--SQGs and LQGs are required to send their hazardous waste to a RCRA-permitted facility. Unless

subject to more stringent state requirements, CESQGs may send their hazardous wastes to a state approved solid waste facility (municipal landfill) or to a RCRA-permitted facility.

### **Additional Recommended Reading**

For more information about the hazardous waste regulations that apply to perc dry cleaners, it is suggested that you read the EPA Handbook, *Understanding the Small Quantity Generator Hazardous Waste Rules: A Handbook for Small Business*, Document Number: EPA/530-SW-86-019. This document can be obtained from your Regional EPA Small Business contact listed in **Appendix A**.



## **Section D: Plain English version of pretreatment and underground injection control regulations**

This section discusses the pretreatment regulations for dry cleaners that dispose of their wastewater into a sewer. This discussion will be followed by a discussion of the regulations for underground injection wells, which apply to those dry cleaners that dispose of their wastewater into a septic system.



**YOUR STATE'S  
REQUIREMENTS MAY BE  
MORE STRINGENT THAN  
THE FEDERAL  
REQUIREMENTS SO**

**ALWAYS CHECK WITH YOUR STATE  
AGENCY.**

### **Provisions of Pretreatment Regulations**

The federal pretreatment regulations (found in Title 40, Part 403 of the Code of Federal Regulations [CFR]) address the treatment of industrial wastewaters before they are discharged to the sanitary sewer and routed to the municipal wastewater treatment plant. Municipal wastewater treatment plants are known as "publicly owned treatment works," or POTWs.

The purpose of the pretreatment regulations is to prevent discharge of pollutants to the municipal treatment plant that would:

- Interfere with operation of the plant;
- Pass through the plant untreated;

- Create problems with disposal of sludge from the treatment plant; or
- Cause problems to treatment plant or sewer system workers from exposure to chemicals, explosion, or fire hazards of some chemicals.

The pretreatment regulations developed by the U.S. Environmental Protection Agency (EPA) include three parts: general requirements for all industries discharging to a municipal treatment plant; requirements specific to certain industrial categories ("categorical standards"); and requirements specific to certain industrial facilities as defined in their individual permits.

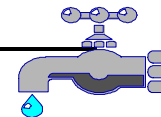
Some general pretreatment requirements apply to all industries discharging wastewater to the sewer system. These applicable general pretreatment requirements are:

- Prohibitions against discharging certain pollutants to the municipal treatment plant; and
- Reporting and recordkeeping requirements.

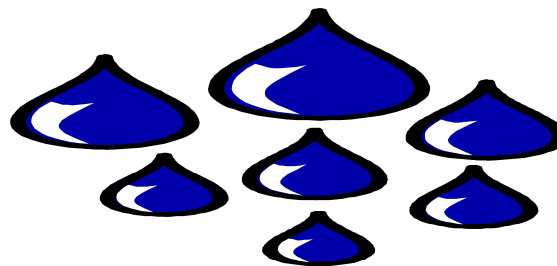
Although EPA has developed requirements specific to certain industries, perc dry cleaners are not one of those industries. Facility-specific requirements are based on the type of industrial activity and the treatment capabilities and capacity of the treatment works.

### **General Prohibitions**

Certain pollutants are prohibited from being discharged into the sanitary sewer by any industrial user, including dry cleaners:



- Pollutants that cause pass through or interference with the municipal treatment plant (e.g., heat, petroleum oil, nonbiodegradable cutting oil);
- Pollutants that create a fire or explosion hazard in the treatment plant or sewer system;
- Pollutants that will corrode the treatment plant or sewer system, specifically any wastewater with a pH less than 5;
- Solid or viscous pollutants that could obstruct wastewater flow;
- Pollutants that result in toxic gases, vapors, or fumes within the treatment plant or sewer system at levels that may cause worker safety or health problems; and
- Any trucked or hauled pollutants, except at discharge points designated by the treatment plant authority.



- Reporting required by the treatment plant authority for industries that are not subject to any federal categorical standards;
- Notification of substantial change in the wastewater discharge;
- Recordkeeping for pollutant and flow feeds that must be monitored or reported;
- Notification of discharge of any hazardous waste; and
- Wastewater sampling records if sampling is required by the treatment plant authority to be conducted.

Municipal treatment plant authorities are required by the pretreatment regulations to conduct Industrial User Surveys. Industries that discharge to the treatment plant should identify (and immediately eliminate discharge of) any and all of the above prohibited pollutants. Dry cleaners should list other contaminants and provide this list to the treatment plant or sewer system authority.

### **Recordkeeping and Reporting Requirements**

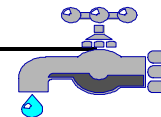
Reporting and recordkeeping requirements that may apply to perc dry cleaners include:

- Notification of typical discharge characteristics;
- Notification of potential problems, including unusually large discharges and spills;

These items are discussed below.

The treatment plant authority must know what is typically being discharged into its treatment plant by every industrial user. To accomplish this, the treatment plant authority may require industrial dischargers to sample their wastewater periodically and report the results, or the treatment plant authority may do the sampling itself. Typically, for small industries such as dry cleaners and for industries that are not familiar with how to collect and analyze wastewater samples, the treatment plant authority will do the sampling. The treatment plant authority will let the industry know if sampling is required.

The treatment plant authority also needs to know about any problems headed toward the treatment plant



via the sewer. An industrial discharger must notify the treatment plant authority immediately of any discharge including a "slug loading" that could cause problems at the treatment plant. A slug loading is defined as any relatively large release of a pollutant that might not ordinarily cause a problem when released in small quantities.

If an industrial user is required to sample its wastewater, records of all sampling information must be kept. This includes, for all samples:

- The date, exact place, method of sampling, and time of sampling and the names of the person or persons taking the samples;
- The dates analyses were performed;
- The laboratory that performed the analyses;
- The analytical techniques/methods used; and
- The results of such analyses.

The industrial user must also keep records of any monitoring conducted by the user, even if it is not required by the treatment plant authority. All of these records must be kept for at least 3 years.

### **Hazardous Waste Notification**

To make sure that hazardous wastes are not avoiding regulation by being discharged into the sewer, the EPA added a little-known provision to the pretreatment regulations in 1990. An industrial user, including a dry cleaner, must notify the treatment plant authority of any discharge into the treatment plant of a substance that would be a hazardous waste under the Resource Conservation and Recovery Act (RCRA) if

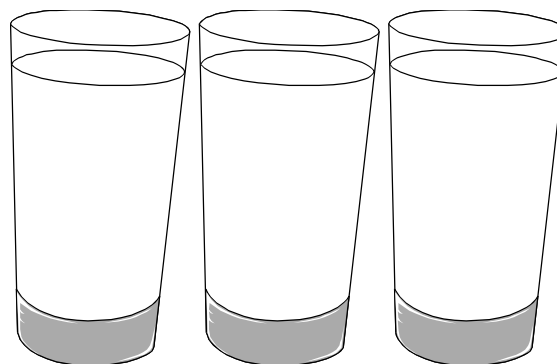
they discharge more than 15 kg of perc waste in a calendar month.

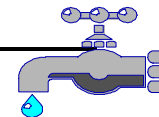
The notification must be in writing, and the industry must also notify the EPA Regional Waste Management Division Director and the state hazardous waste authority. The notification must include:

- The name of the hazardous waste as listed in 40 CFR Part 261;
- The EPA hazardous waste number; and
- The type of discharge (continuous, batch, or other).

If an industrial user discharges more than 100 kilograms of the hazardous waste per month to the sewer, the notification must also contain the following information:

- What hazardous constituents are contained in the waste;
- An estimate of how much (mass and concentration) of the hazardous constituents were discharged during that month; and
- An estimate of how much will be discharged in the next 12 months.





If any new substance is listed under RCRA and an industry discharges the substance, the industry must notify the authorities cited above within 90 days of the new listing.

Industries that must make notifications of hazardous waste discharges also have to certify that they have a program to reduce the amount and toxicity of the hazardous wastes they generate, to the degree that they are economically able.

These RCRA hazardous waste-related provisions of the pretreatment regulations have received little attention from industries, municipalities, state agencies, and the EPA in the past. Most municipalities are able to obtain information on RCRA hazardous waste discharges to the sewer through their Industrial User Surveys, and therefore do not implement these provisions. However, as long as these regulations are in effect, industries are legally obligated to comply with them. Additionally, increased federal and state emphasis on waste minimization is expected to result in more strict enforcement of the requirement to develop and implement a waste minimization program.

A final requirement of the pretreatment standards is notification of changed discharge. Industries must notify the treatment plant authority in advance of any substantial change in the amount or type of pollutants they discharge. This includes changes in the discharge of any RCRA hazardous wastes, of which the treatment authority has already been notified by the industry (as discussed above).

### Underground Injection Wells

The Federal regulations for prohibiting the disposal of perc-contaminated wastewater into an underground injection well are found in part 40 of the Code of Federal Regulations (CFR) in §144.4; §144.12; §144.13; §144.23; and §144.24. These regulations apply to states that have Federal UIC programs. These regulations prohibit any disposal activity that would endanger underground sources of drinking water by risking contamination. Pure perc or perc-contaminated wastes disposed into the septic system may endanger underground sources of drinking water and are covered by these regulations. Dry cleaners disposing of perc waste into a shallow disposal system, a dry well, or an ordinary septic system would qualify as a Class V underground injection well and are subject to the “no endangerment” requirement.

If found in violation of the “no endangerment” requirement, the dry cleaner becomes subject to enforcement action, remediation (including clean up and/or closure), or may be required to obtain a permit. In most cases, enforcement action is decided by the Federal Underground Injection Control Director of that state program as to what penalties or remediation may be required. (See **Page II-13**.) EPA-approved state UIC programs have similar restrictions. Contact your EPA Regional Office for the name of the state director (See **Appendix A**).

# Part II: Step-by-step approach to environmental compliance

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## Section A. Introduction

---

In the first part of this handbook, you read a summary of the environmental regulations for air, hazardous waste, and water that apply to dry cleaners. The second part of the handbook gives you step-by-step instructions on how to follow these environmental requirements in practical ways at your dry cleaning shop. **Table II-1** gives a chronological summary of all the requirements and recommended actions that are discussed in this part. The table is divided into three columns: air, hazardous waste, and water. The table shows what requirements you must follow to start your dry cleaning business and how to stay in compliance while you are doing business.

The requirements for staying in compliance are further divided into those that must be performed on a daily, weekly, monthly, or occasional basis. Each listed requirement is discussed in one of the four sections (II-B to II-D) following this introduction. These sections will help you answer four basic questions:

- 1) What regulations apply to my dry cleaning shop?
- 2) How do I properly set up my dry cleaning shop?
- 3) How do I properly operate and maintain my shop? and
- 4) What do I do if an accident happens?

All of the information needed to answer these questions is presented step-by-step in sections II-B



through II-D.



**TABLE II-1  
REGULATORY REQUIREMENTS AND RECOMMENDATIONS**

	<b>AIR</b>	<b>HAZARDOUS WASTE</b>	<b>WATER</b>
<b>Pre-Operation</b>	<ul style="list-style-type: none"> <li>✓ EPA recommends that serious consideration be given to consulting with a reputable dry cleaning trade association</li> <li>✓ Check with your EPA Regional Air Office to find out how state and local authorities should be contacted</li> <li>✓ Purchase correct dry cleaning machine and control equipment</li> <li>✓ Be sure refrigerated condenser gets down to 45 °F</li> <li>✓ Fill out and send in Initial Notification Report and Pollution Prevention Compliance Report. Include Control Requirements Compliance Report if a control device is required</li> <li>✓ Check with your EPA Regional Air Office to find out if you are required to obtain a Title V permit</li> </ul>	<ul style="list-style-type: none"> <li>✓ Obtain a U.S. EPA Identification Number</li> <li>✓ Select a hazardous waste transporter</li> <li>✓ Select a hazardous waste management facility</li> <li>✓ Develop a hazardous waste contingency plan, if it is required</li> </ul>	<ul style="list-style-type: none"> <li>✓ Contact state and local wastewater authorities for potential permit requirements, including sampling, record keeping, and reporting requirements</li> <li>✓ EPA recommends to test groundwater for perc contamination under prospective plant site, especially if dry cleaner was on the site previously</li> <li>✓ EPA recommends not putting anything down the drain with perc in it</li> <li>✓ Close floor drains connected to drain fields, septic systems, and dry wells</li> </ul>
<b>Daily</b>	<ul style="list-style-type: none"> <li>✓ Follow good housekeeping practices</li> </ul>	<ul style="list-style-type: none"> <li>✓ Follow proper storage and management procedures</li> </ul>	<ul style="list-style-type: none"> <li>✓ Do not make discharges to the sewer that exceed local requirements. Do not make any discharges to the septic system or other shallow disposal wells</li> </ul>
<b>Weekly</b>	<ul style="list-style-type: none"> <li>✓ Monitor carbon adsorbers, refrigerated condensers as required</li> <li>✓ Perform leak detection and repair*</li> </ul>	<ul style="list-style-type: none"> <li>✓ Inspect waste storage areas</li> <li>✓ Review manifest log for status of shipped waste (file exception report if no receipt from final destination)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Follow any sampling, reporting, and record keeping requirements</li> </ul>

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<b>Monthly</b>	✓ Record solvent purchases and calculate yearly consumption	✓ Check quantity of hazardous waste to determine generator status  ✓ Inspect emergency control equipment	
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**TABLE II-1  
CONTINUED**

	<b>AIR</b>	<b>HAZARDOUS WASTE</b>	<b>WATER</b>
<b>Each Time You Ship Hazardous Waste</b>		<ul style="list-style-type: none"> <li>✓ Complete hazardous waste manifest for each shipment of waste transported off site and enter into manifest log</li> <li>✓ Follow proper handling procedures for transport (labeling, placarding, forms, etc.)</li> </ul>	
<b>If You Have an Accident or Spill</b>	<ul style="list-style-type: none"> <li>✓ Follow startup, shutdown, malfunction plan (may be standard operating procedures or an OSHA plan)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Follow contingency plan, if it is required</li> </ul>	<ul style="list-style-type: none"> <li>✓ If discharge of perc to sewer is greater than 15 kg/mo, make Hazardous Waste Notification</li> <li>✓ Report any discharge to shallow subsurface flow distribution system of toxic or hazardous waste to state or EPA UIC program directors</li> </ul>

\* Small dry cleaners must perform leak detection and repair once every two weeks.

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## Section B. Which regulations apply to my dry cleaning shop?

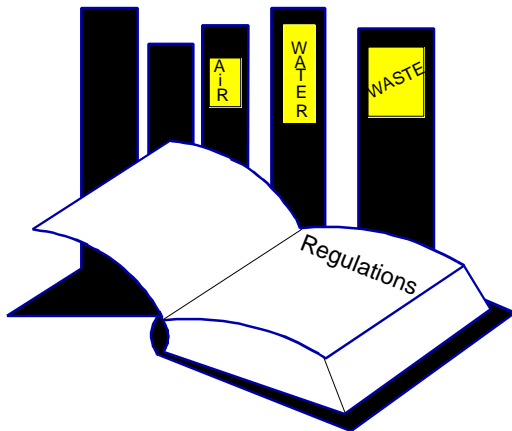
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First you must determine how your shop is classified under the regulations for air, hazardous waste, and wastewater. Each regulation has its own separate way to determine classification.



**YOU MAY NOT BE SUBJECT TO ALL OF THE REGULATIONS.**

Regulations for **AIR** pollution depend upon: 1) the yearly amount of perc your dry cleaning shop purchases; 2) the type of dry cleaning machine(s) used; and 3) the date the machine(s) was installed. Regulations for **HAZARDOUS WASTE** depend upon the amount of hazardous waste your shop generates each month. Regulations for **WASTEWATER PRETREATMENT** for hazardous wastes depend upon the amount of perc your shop releases into the sewer system each month or stores on-site.



This section will help you determine your classification for each of the three sets of regulations.

### Step 1. Air

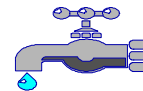


- ▶ Which air requirements apply at your dry cleaning shop.
- ▶ Which air pollution control equipment is needed at your dry cleaning shop.
- ▶ How to determine your yearly perc consumption.



### Step 2: Hazardous Waste

- ▶ Which wastes are hazardous wastes.
- ▶ How to determine the quantity of hazardous waste you generate.
- ▶ How to determine your hazardous waste generator classification.
- ▶ How your generator category may change.



### Step 3: Water

- ▶ When wastewater pretreatment requirements apply.
- ▶ When requirements for underground injection wells apply.



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## **Step 1: Which federal air requirements apply?**

The air requirements that apply at your dry cleaning shop depend on:

- ▶ Your state's Title Five Operating Permit Program. Note that there is a 5-year deferral for all non-major Title III sources subject to Title Five, which includes all small area and large area perc dry cleaners.
- ▶ The type of dry cleaning machines and the dates they were installed.
- ▶ The amount of perc purchased during one calendar year for your entire dry cleaning shop.

### **Your State's Title Five Operating Permit Program**

The Title Five operating permitting program is expected to be in place for all 50 states by November 15, 1995. At that time, the federal operating permit program will apply in all states that have not submitted their own program. Some states have indicated that they will be developing general permits for dry cleaners. If so, dry cleaners will be required to fill out and submit this general permit form. General permits are the simplest type of Title Five permit. Contact your permitting agency (**See Appendix A**) to find out when they are planning to issue any permits for dry cleaners.

### **The Type of Dry Cleaning Machines and the Dates They Were Installed**

To determine how your dry cleaning shop may be affected by the air regulations, it is important to know when your dry cleaning machines were installed. **Dry cleaning machines installed before December 9, 1991 are considered EXISTING; any machines installed on or after December 9, 1991 are considered NEW.**

All **NEW** dry cleaning machines must have at least a refrigerated condenser used as a perc vapor recovery system. **Table II-2** shows the air pollution control requirements for **NEW** dry cleaning machines. They must also follow pollution prevention practices, and meet monitoring, record keeping, and reporting requirements listed in Sections C through E of this handbook. **Table II-3** shows the air pollution control requirements for **EXISTING** dry cleaning machines. These requirements vary according to the amount of perc purchased by the entire dry cleaning facility during a year.



**TABLE II-2  
AIR REQUIREMENTS FOR NEW DRY CLEANERS**

Small Area Dry Cleaners	Large Area Dry Cleaners	Major Dry Cleaner
<p><b>Dry-to-Dry Machines ONLY: Less than 140 gal/yr</b></p> <p>If your yearly perc purchases are less than the amounts listed above, you are considered a "small" area dry cleaner and must have a no-vent dry cleaning machine with a refrigerated condenser used as a perc recovery system. You are required to:</p> <ul style="list-style-type: none"> <li>✓ Follow good housekeeping requirements described on <b>Pages II-26 and II-27.</b></li> </ul>	<p><b>Dry-to-Dry Machines ONLY: 140 to 2,100 gal/yr</b></p> <p>If your yearly perc purchases are within the amounts listed above, you are a "large" area dry cleaner and must have a no-vent dry cleaning machine with a refrigerated condenser used as a perc recovery system. You are also required to meet all of the requirements <b>listed in the previous column for small area dry cleaners, plus:</b></p> <ul style="list-style-type: none"> <li>✓ Meet monitoring requirements as described on <b>Pages II-28 and II-29.</b></li> <li>✓ Inspect for leaks once each week.</li> </ul>	<p><b>Dry-to-Dry Machines ONLY: More Than 2,100 gal/yr</b></p> <p>If your yearly perc purchases are more than the amounts listed above, you are a "major" dry cleaner and must have a no-vent dry cleaning machine with a refrigerated condenser used as a perc recovery system. You must also install a carbon adsorber to control perc vapors as you open the machine door. You must comply with all of the pollution prevention, control equipment, monitoring, and record keeping and reporting requirements <b>listed in the previous columns for large area dry cleaners and small dry cleaners.</b></p>

**TABLE II-3  
AIR REQUIREMENTS FOR EXISTING DRY CLEANERS ARE BASED ON PERC PURCHASES**

Small Area Dry Cleaners	Large Area Dry Cleaners	Major Dry Cleaner
<p>Dry-to-Dry Machines ONLY: Less than 140 gal/yr OR Transfer Machines ONLY: Less Than 200 gal/yr OR Transfer AND Dry-to-Dry Machines: Less Than 140 gal/yr</p>	<p>Dry-to-Dry Machines ONLY: 140 to 2,100 gal/yr OR Transfer Machines ONLY: 200 to 1,800 gal/yr OR Transfer AND Dry-to-Dry Machines: 140 to 1,800 gal/yr</p>	<p>Dry-to-Dry Machines ONLY: More Than 2,100 gal/yr OR Transfer Machines ONLY: More Than 1,800 gal/yr OR Transfer AND Dry-to-Dry Machines: More Than 1,800 gal/yr</p>
<p>If your yearly perc purchases are less than the amounts listed above, you are considered a "small" area dry cleaner and do not need to install perc vapor recovery systems on existing machines. You are required to:</p> <ul style="list-style-type: none"> <li>✓ Follow good housekeeping requirements described on Pages II-26 and II-27.</li> <li>✓ Meet record keeping and reporting requirements for annual perc consumption and keep a log of leak detection and repair program results as shown on Page II-27.</li> <li>✓ Inspect for leaks every other week.</li> </ul>	<p>If your yearly perc purchases are within the amounts listed above, you are a "large" area dry cleaner and must install perc vapor recover devices on each existing machine. You are also required to meet all of the requirements listed in the previous column for small area dry cleaners, plus:</p> <ul style="list-style-type: none"> <li>✓ Install a refrigerated condenser or use existing carbon adsorber.*</li> <li>✓ Meet monitoring requirements as described on Pages II-28 and II-29.</li> <li>✓ Inspect for leaks once each week.</li> </ul>	<p>If your yearly perc purchases are more than the amounts listed above per year, you are a "major" dry cleaner and must comply with all of the pollution prevention, control equipment, monitoring, and record keeping and reporting requirements listed in the previous columns for large area dry cleaners and small dry cleaners, plus:</p> <ul style="list-style-type: none"> <li>✓ Install a room enclosure around each transfer machine and vent the room enclosure to a carbon adsorber. Room enclosures cannot be vented to refrigerated condensers.</li> <li>✓ Inspect for leaks once each week.</li> </ul>

\* Adsorbers in place before September 22, 1993 can be used.

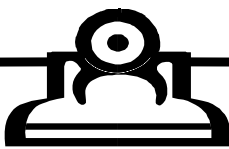




**The Amount of Perc Purchased During One Year for Your Dry Cleaning Store**

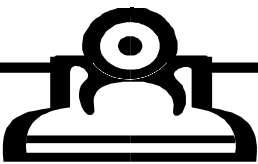
To calculate your yearly perc consumption on a rolling, monthly basis, add together all perc purchases for the previous 12 months for all of the dry cleaning machines at your shop. As each calendar month begins, add the new perc purchases for that month and subtract the perc purchases made in the oldest of the 12 months.

**FOR EXAMPLE:** at the beginning of January 1995, if your perc purchases were as follows:



<b>1994</b>	<b>Jan:</b>	<b>55 gal</b>
	<b>Feb:</b>	<b>0 gal</b>
	<b>Mar:</b>	<b>55 gal</b>
	<b>Apr:</b>	<b>0 gal</b>
	<b>May:</b>	<b>0 gal</b>
	<b>Jun:</b>	<b>0 gal</b>
	<b>Jul:</b>	<b>55 gal</b>
	<b>Aug:</b>	<b>0 gal</b>
	<b>Sep:</b>	<b>55 gal</b>
	<b>Oct:</b>	<b>55 gal</b>
	<b>Nov:</b>	<b>55 gal</b>
	<b>Dec:</b>	<b>55 gal</b>
		<b>385 TOTAL</b>

Your yearly total would be 385 gal. In February 1995, to calculate your rolling yearly average add the next month's purchases and subtract the oldest month's purchases as follows:

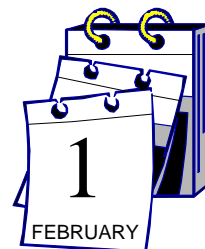


<b>1994</b>	<b>Jan:</b>	<b>55 gal</b>	<i>(Subtract this month's purchases)</i>
	<b>Feb:</b>	<b>0 gal</b>	
	<b>Mar:</b>	<b>55 gal</b>	
	<b>Apr:</b>	<b>0 gal</b>	
	<b>May:</b>	<b>0 gal</b>	
	<b>Jun:</b>	<b>0 gal</b>	
	<b>Jul:</b>	<b>55 gal</b>	
	<b>Aug:</b>	<b>0 gal</b>	
	<b>Sep:</b>	<b>55 gal</b>	
	<b>Oct:</b>	<b>55 gal</b>	
	<b>Nov:</b>	<b>55 gal</b>	
	<b>Dec:</b>	<b>55 gal</b>	
<b>1995</b>	<b>Jan:</b>	<b>0 gal</b>	<i>(Add the new month's purchases)</i>
		<b>330 TOTAL</b>	

Thus, each month you will determine a new yearly average based upon the purchases from the 12 preceding months.



**BE SURE TO COUNT YOUR PERC PURCHASES EACH MONTH, EVEN IF YOU MADE ZERO PERC PURCHASES DURING THAT MONTH.**







## Step 2: Which hazardous waste requirements apply?

### Which Wastes Are Hazardous Wastes?

To find out your hazardous waste **GENERATOR classification** you must add together the total weight of hazardous wastes you generate each month. Hazardous wastes from a typical perc dry cleaners include:

- ▶ cooked powder residue,
- ▶ still residues, and
- ▶ spent cartridge filters containing perc or valclene.

These wastes contain the listed waste perc and have the EPA Hazardous Waste Number **F002**.

### How to Count the Quantity of Hazardous Waste

You **MUST** count all quantities of perc wastes that are:

- ▶ Collected on-site prior to treatment or disposal.
- ▶ Packaged and transported off-site.

You do **NOT** have to count perc wastes that:

- ▶ Are left at the bottom of solvent containers that have been emptied by conventional means (for example, pouring or pumping) and no more than 2.5 cm (1 in) of residue remains in the bottom of the container or no more than 3 percent by weight of the total



capacity of the container remains in the container if the container is less than or equal to 110 gallons in size.

- ▶ Are left as residue at the bottom of storage tanks, if the residue is not removed. For example, residues left in the bottom of the perc storage tank are not counted as long as they are not removed when the tank is refilled.
- ▶ You reclaim continuously on-site without storing the waste prior to reclamation. For example, the liquid perc that is recovered during the dry cleaning cycle and returned to your base tank for reuse. (You **do** have to count any residue removed from the machine as well as spent cartridge filters.)
- ▶ You have already counted once during the calendar month, and treated on-site or reclaimed in some manner, and used again.
- ▶ Are directly discharged to a municipal treatment plant or publicly owned treatment works (POTW) without being stored or accumulated first. **This discharge to a POTW must comply with the Clean Water Act and any local regulations. You should contact your local water**



**authority before discharging any wastes other than sewage into the sewer system. Additional requirements may apply if you dispose of perc into the sewer.**

**Table II-4** shows some typical quantities of hazardous waste generated at typical dry cleaners. If you store your waste in drums you should know that one-half of a 55-gallon drum holds about 220 lb (100 kg) of hazardous waste.

**TABLE II-4  
TYPICAL AMOUNTS OF HAZARDOUS WASTE GENERATED BY A PERC DRY CLEANING FACILITY (FOR EVERY 1,000 POUNDS OF CLOTHES CLEANED)**

Type of Hazardous Waste	Typical Amount of Hazardous Waste (pounds)
Still Residues	25
Spent Cartridge Filters Standard (Carbon Core)	20
Adsorptive (Split)	30
Cooked Powder Residue	40

Large Quantity Generators (LQGs). Most dry cleaners will be CESQGs or SQGs.

**Table II-5** presents a summary of the federal hazardous waste requirements that apply to each of the three categories.



**YOUR STATE'S REQUIREMENTS MAY BE MORE STRINGENT THAN THE FEDERAL REQUIREMENTS, SO ALWAYS CHECK WITH YOUR STATE AGENCY.**

**How to Determine Your Hazardous Waste Classification**

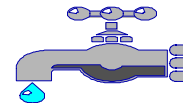
Count up how much hazardous waste you generate and figure out which generator category applies to you each month. There are three generator categories for hazardous waste producers: Conditionally Exempt Small Quantity Generators (CESQGs), Small Quantity Generators (SQGs), and



**TABLE II-5  
THE THREE HAZARDOUS WASTE GENERATOR CATEGORIES**

Generators of No More Than 100 kg/mo*	Generators of 100 to 1,000 kg/mo	Generators of More Than 1,000 kg/mo
<p><b>CESQGs:</b> If you generate no more than 100 kilograms (about 220 pounds or 25 gallons) of hazardous waste per month, you are a <b>Conditionally Exempt Small Quantity Generator</b>, and the Federal hazardous waste laws require you to:</p> <ul style="list-style-type: none"> <li>✓ Identify all hazardous waste you generate.</li> <li>✓ Send this waste to a hazardous waste facility approved by the state for receiving industrial or municipal wastes.</li> <li>✓ Never accumulate more than 1,000 kg of hazardous waste on your property. (If you do, you become subject to all the requirements applicable to SQGs listed in this handbook.)</li> </ul> <p>Up to 1/2 of a 55-gallon drum per month</p>	<p><b>SQGs:</b> If you generate more than 100 and less than 1,000 kg (between 220 and 2,200 pounds or about 25 to 300 gallons) of hazardous waste in any month, you are a <b>Small Quantity Generator</b>, and federal laws require you to:</p> <ul style="list-style-type: none"> <li>✓ Identify all hazardous wastes you generate.</li> <li>✓ Comply with all of the rules for the management of hazardous wastes, including requirements for accumulation, treatment, storage, and disposal, described in <b>Sections II-C through II-E</b> of this handbook.</li> </ul> <p>1/2 to 10 55-gallon drums per month</p>	<p><b>LQGs:</b> If you generate 1,000 kg (about 2,200 pounds or 300 gallons) or more of hazardous waste in any month, you are a <b>Large Quantity Generator</b>. Most dry cleaners will not be LQGs; therefore, the requirements for LQGs are not listed here. See 40 CFR Part 261 for those requirements.</p> <p>More than 10 55-gallon drums per month</p>

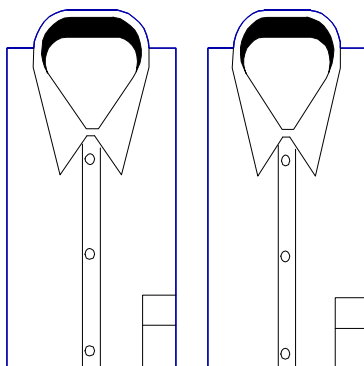
\*Note: 100 kg is about 1/2 of a 55-gallon drum of perc hazardous waste.



**REMEMBER: YOU MUST IDENTIFY YOUR GENERATOR CATEGORY EACH MONTH.**

**What Happens When You Change Generator Categories?**

Under the federal hazardous waste management system, you may be regulated under different rules at different times, depending on the amount of hazardous waste you generate in a given month.



**For example:**

If in May..... You generate 100 kg or less of hazardous waste

➡ You would be a **Conditionally Exempt Small Quantity Generator (CESQG)**.

If, in June.... Your hazardous waste totals more than 100 kg but less than 1,000 kg

➡ Your generator status changes and you would be subject to the requirements for a **Small Quantity Generator (SQG)**.

If, in July.... You generate less than 100 kg

➡ You are once more a **CESQG**.

If, in September You generate more than 1,000 kg

➡ The wastes you generated in September would be subject to all hazardous waste management regulations applicable to a **Large Quantity Generator (LQG)**. In addition, if the hazardous wastes you generated in September were added to hazardous wastes from previous months, all of these wastes would be subject to the LQG requirements.

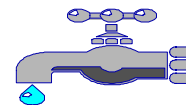
As shown by the example above, your generator status may change on a monthly basis.



**REMEMBER: STATES MAY HAVE MORE STRINGENT REQUIREMENTS FOR DETERMINING GENERATOR CATEGORIES SO ALWAYS CHECK WITH YOUR STATE AGENCY.**



**Step 3: Which wastewater**



## **requirements apply to perc contact cooling water?**

Perc contact water generated by dry cleaners may include separator water, vacuum water, and boiler blowdown. The wastewater requirements that apply to your dry cleaning shop depend upon:

- ▶ whether you dispose of perc contact water from your shop directly into a septic system;
- ▶ whether the septic system you use is capable of handling waste generated by more than 20 people in one day, **even if you do not dispose of perc waste in the system;**
- ▶ whether you dispose of perc contact water from your shop directly into a sewer system routed to a municipal waste treatment plant.

### **Which Requirements Apply to a Dry Cleaning Shop with a Septic System?**

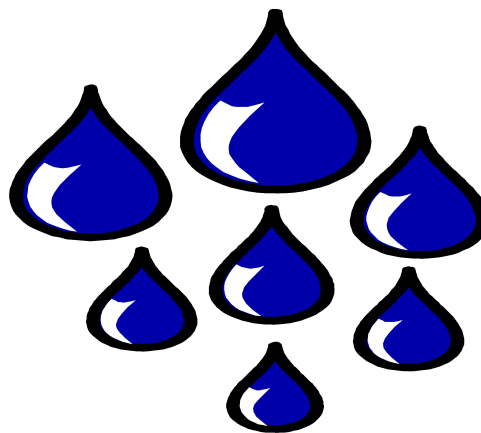
See **Table II-6** for the requirements that apply to a dry cleaning shop with a septic system.

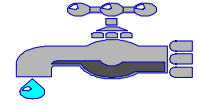
### **Which Requirements Apply to Dry Cleaning Shops That Discharge to the Sewer**

If your dry cleaning shop is connected to a sewer system, you may be subject to pretreatment requirements. Separator water and vacuum water (which may have perc in it that is residual in clean clothes and gets into the vacuum water during pressing) may have pretreatment issues associated with them. **Table II-7** presents the wastewater requirements that apply to dry cleaners.

### **State/Local Requirements**

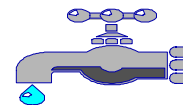
Dry cleaners have not been issued industry-specific standards for control of the perc contact water, but they are subject to general requirements that apply to all industries discharging to a municipal treatment plant. Dry cleaners are potentially subject to the hazardous waste notification requirements that are found in the pretreatment standards. Dry cleaners may also be subject to state and local requirements. For information on state and local regulations, dry cleaners should contact their state authorities, or local pretreatment program or treatment plant authority. (See **Appendix A**.)





**TABLE II-6  
MATERIALS USED AND WASTES GENERATED BY DRY CLEANERS**

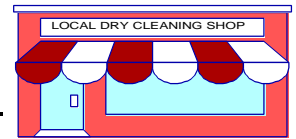
Operation	Typical Materials Used	Typical Wastes Generated	Requirements which apply to a dry cleaning shop with a shallow disposal well
Perc-type  Mixed-type  Valcylene-type  Petroleum solvent-type	Tetrachloroethylene, water, detergents, additives, filter cartridges  Tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene, methylene chloride, filter cartridges  Trichlorotrifluoroethane, filter cartridges, detergents, additives  Stoddard solvent, filter cartridges, detergents, additives	Spent solvents, still residues from solvent distillation, spent filter cartridges (standard and adsorptive type), cooked powder residues from diatomaceous earth or powder filter systems, spotting board residues, drained filter muck, separator water from solvent vapor recovery, machine lint and dust, empty containers.  Residuals from industrial dry cleaning operations receiving rags and clothing soiled with various aromatic and chlorinated solvents, oil, and greases, and other hazardous materials	State and/or Federal Underground Injection Control (UIC) programs regulate shallow disposal wells which receive industrial wastes instead of or in addition to solely sanitary wastes. They also prohibit injection of hazardous wastes into or above underground sources of drinking water. Contact your EPA Regional UIC Program Office for restrictions which apply to your state. (See <b>Appendix A.</b> ) Penalties can reach \$25,000 for each day of noncompliance, and liability for ground water remediation may exceed one million dollars.  Contact your local government for information about Wellhead Protection Programs and other land use planning programs which may restrict injection practices.
Spot/stain removal	Stain/spot removers & prespot containing chlorinated & aromatic hydrocarbons, amonic detergents, emulsifying, dispersing, & pH controlling agents for removal of fats, oils, greases, paints & enamels (1,1,1-trichloroethane, trichloroethylene, perchloroethylene, methylene chloride, petroleum solvents, amy acetate, polypropylene glycol, ethylene glycol, monobutyl ether acetate, N-butoxyethanol, cyclohexanol, shell solvent 71, shell cyclosol 63, glycolic acid, pale oil, hexylene glycol, subtilin, sodium tripolyphosphate, diacetone alcohol, butyl cellosolve, potassium hydroxide	Spotting residues, empty containers, waste products	Injection practices applicable to dry cleaner shallow disposal wells, e.g., septic systems, floor drains, and sump and separator systems discharge to dry wells or leach lines and dry wells designed for drainage of storm water from industrial and commercial areas



**TABLE II-7  
WASTEWATER REQUIREMENTS FOR DRY CLEANERS WITH SEWER SYSTEMS**

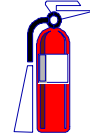
Requirements for All Dry Cleaners	Requirements for Dry Cleaners Discharging More Than 15 kg/mo of Liquid Perc
<p><u>General Prohibitions:</u></p> <p>✓ You may not discharge into the sewer any of the following pollutants:</p> <ul style="list-style-type: none"> <li>- Pollutants including heat, petroleum oil, and nonbiodegradable cutting oil, that cause pass through or interference with the municipal treatment plant;</li> <li>- Pollutants that create a fire or explosion hazard in the treatment plant;</li> <li>- Pollutants that will corrode the treatment plant, specifically any wastewater with a pH less than 5;</li> <li>- Solid or viscous pollutants that could obstruct wastewater flow; and</li> <li>- Pollutants that result in toxic gases, vapors, or fumes within the treatment plant at levels that may cause worker safety or health problems.</li> </ul> <p><u>Record keeping and Reporting:</u></p> <p>✓ You must follow the notification and record keeping requirements listed in Part I of this handbook.</p> <p><u>State and Local:</u></p> <p>✓ You must comply with any additional state and local requirements found in your municipality's sewer ordinance. Contact your municipal pretreatment program or treatment plant authority for these requirements.</p>	<p><u>Hazardous Waste Notification:</u></p> <p>✓ If you discharge more than 15 kg/mo of perc into the sewer, you must notify the treatment plant authority and comply with the Hazardous waste notification requirements listed in Part I of this handbook.*</p>

\* It is unlikely that a dry cleaner would discharge this much perc on a routine basis. To meet the 15 kg threshold, a dry cleaner would have to discharge in the range of 28,000 gal of wastewater with a typical concentration (150 ppm) found in separator water. However, if there is a spill of pure perc, only 2.4 gallons would need to be released into the sewer to meet this level.



## Section C: How do I set up my dry cleaning shop?

### Step 4: Emergency Planning



As you set up your dry cleaning machines and develop operating practices for your new dry cleaning shop, you must follow certain guidelines to make sure that your facility will comply with air, hazardous waste, and water requirements. This section is designed to help dry cleaners:

#### Step 1: Air



- ▶ Select new dry cleaning equipment and evaluate existing equipment.
- ▶ Submit the appropriate initial reports and compliance reports to EPA to show that air emission requirements are being met.

#### Step 2: Hazardous Waste



- ▶ Obtain a U.S. EPA Identification number, which registers your dry cleaner as a generator of hazardous wastes.
- ▶ Select a reputable and authorized hazardous waste transporter.

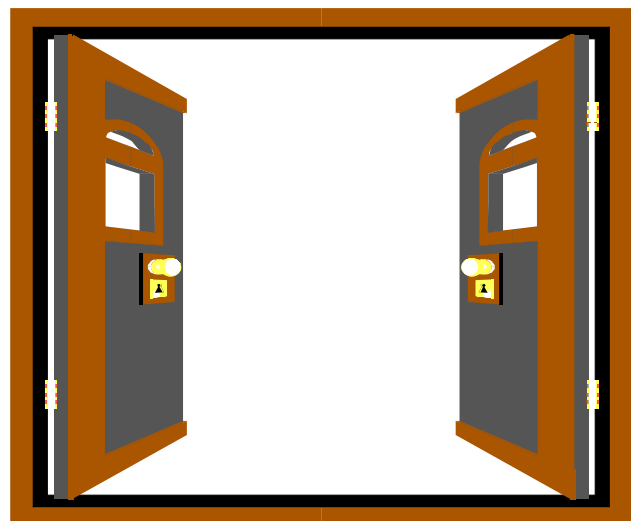
#### Step 3: Water



- ▶ Make sure that any drains located near the dry cleaning operation where perc contact cooling water may approach them are disconnected from the septic system.

- ▶ Develop a contingency plan in case of an emergency. This plan is required for certain hazardous waste generators (SQGs), and strongly recommended, although not required, for CESQGs.
- ▶ Prepare for accidents and take steps to prevent them.

Although there are no specific operating requirements for complying with federal wastewater pretreatment regulations, it is advised that you contact your state/local wastewater authority to learn if there are any permit requirements that apply to your dry cleaning facility.







## Step 1: Setting up a dry cleaning shop to comply with air requirements

### Select New Dry Cleaning Machines/Evaluate Existing Machines

All **new** dry cleaning machines must be dry-to-dry machines and have refrigerated condensers (at least). A **Major** machine [any machine located at a dry cleaning facility with combined perc purchases greater than 2,100 (or 1,800) gallons/yr] must also have a carbon adsorber to capture remaining perc vapors inside the dry-to-dry machine drum.

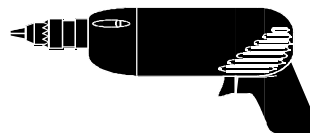
The type of air pollution control required for an **existing** dry cleaning machine is based on the amount of perc purchased for all of the dry cleaning machines in the entire dry cleaning facility. Refer back to **Table II-3** on **Page II-7** to determine if you are a small area, large area, or major source and to find out your required controls for an existing machine.

If your dry cleaning machine requires a carbon absorber as a control equipment, then you must prepare a place for a sampling port in the exhaust stack. You will use the sampling port to measure the concentration of perc in the stack to monitor the efficient operation of the carbon absorber. Measure the diameter of your duct (or stack). The sampling port must be drilled **at least 8 duct diameters downstream** from any flow disturbance. A flow disturbance includes:

- ▶ A bend in the duct,

- ▶ A point where the duct diameter becomes wider or smaller,
- ▶ The place where another duct is piped in or out,
- ▶ The beginning or end of the duct.

If your duct diameter is 10 inches wide, you would multiply this number by 8 and drill the hole at least 80 inches downstream. The sampling port must also be **at least 2 duct diameters upstream** from any flow disturbance. This would be 20 inches if your duct diameter is 10 inches.



Drill a hole (**SAMPLING PORT**) in the duct (or stack) that routes the clean air away from the carbon adsorber. The hole that you drill must be only large enough for the colorimetric tube to fit into it (**usually 1/2 inch diameter**) . This hole must be covered up when not testing.

### Submit Initial Report/Compliance Reports

If you open a new dry cleaning facility and purchase one or more **NEW** dry cleaning machines, you are required to:

- ▶ Submit an **INITIAL REPORT** upon startup. A copy of the recommended form for this initial report is found in **Appendix B**.
- ▶ Submit a **POLLUTION PREVENTION COMPLIANCE REPORT** by January 20,



1994 showing that you are performing all of the required good housekeeping practices at your facility.

- ▶ Submit a **CONTROL DEVICE COMPLIANCE REPORT** by 30 days after you begin operating your equipment. A copy of the recommended form for this report is found in **Appendix B**. Note that some states may request additional information.
- ▶ Make sure that both of these forms are filled out correctly and that either the dry cleaning plant owner or manager has signed them.

Copies of both of these forms can be obtained by calling the EPA Regional Office. A list of these contacts is given in **Appendix A**.

For the **CONTROL DEVICE COMPLIANCE REPORT**, you are required to report the amount of perc you purchased over the past 12 months. If you are a new shop, report the amount of perc you purchased during the first month as you start up your new machine. You will not be able to make an annual consumption determination until you have completed one year of operation with the new machines.



**REMEMBER:**

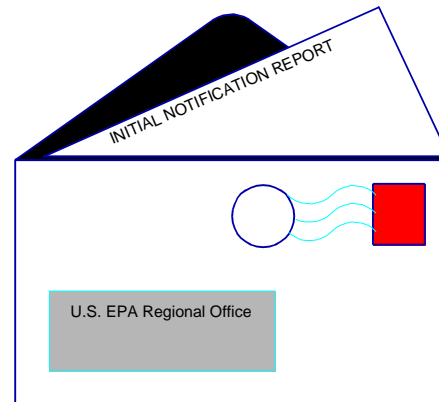
- ▶ If the amount of perc you purchased exceeded 140 gallons, you must monitor the temperature of the refrigerated condenser.
- ▶ If the amount of perc you purchased exceeded 2,100 gallons, you must install a supplemental carbon adsorber and monitor the perc levels for either an internal (no

vent) or external (vented) carbon adsorber.

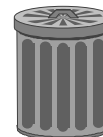
- ▶ If you ever exceed the perc levels for a 12-month period reported in your notification by enough to change your status from **SMALL AREA** to **LARGE AREA** or from **LARGE AREA** to **MAJOR** in a future 12-month period, you must submit a revised compliance report stating your new status. (See **Page II-8** for guidance on how to calculate this 12-month average.)

If you have **EXISTING** machines at your dry cleaning plant:

- ▶ You were required to submit the **INITIAL NOTIFICATION** and a **POLLUTION PREVENTION COMPLIANCE REPORT** by **June 18, 1994**.



- ▶ If you are required to install a control device (according to **Table II-3** on **Page II-7**), then you should submit a **CONTROL DEVICE COMPLIANCE REPORT** by **October 22, 1996**.
- ▶ If you were not required to install a control device, then you should have submitted a **POLLUTION PREVENTION COMPLIANCE REPORT**. In this report you should have certified that you are performing the required leak detection and repair program and that you are following good housekeeping procedures. A copy of



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the recommended form for the **POLLUTION PREVENTION COMPLIANCE REPORT** is found in **Appendix B**.

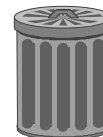
## **Step 2: Setting up a dry cleaning shop to comply with solid waste requirements**

### **Obtain a U.S. EPA Identification Number**

If your dry cleaning facility transports, stores, or disposes more than 100 kg (about 220 pounds or 25 gallons) of hazardous waste in any calendar month (making you are an **SQG** according to **Table II-5** on **Page II-11**), you will need to obtain a U.S. EPA identification number before the time of your first shipment. Some states also require **CESQGs** to have Identification Numbers, so contact your state hazardous waste division to check on specific state requirements. Transporters and facilities that store, treat, or dispose of regulated quantities of hazardous waste generated by dry cleaners must also have U.S. EPA Identification Numbers. These 12-character Identification Numbers used by EPA and states are part of a national database on hazardous waste activities. Note that if your dry cleaning facility already has an Identification Number, you do not need to re-register for one. Note also that if you are a dry cleaner with several cleaning shops, each separate shop needs a unique identification number.

To obtain your U.S. EPA Identification Number:

- ▶ Call or write your state hazardous waste management agency or EPA regional office (see **Appendix A**) and ask for a copy of EPA Form 8700-12, "Notification of Regulated Waste Activity." You will be sent a booklet containing the two-page form and instructions for filling it out. **Figure II-1** provides a sample copy of a notification form to show you the kind of information required. (NOTE: A few



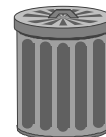
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states use a form that is different from the form shown in **Figure II-1**. Your state will send you the appropriate form to complete.)

- ▶ Fill in the form with the same kind of information shown in the sample form in **Figure II-1**. This information covers your "installation" (your dry cleaning site) and your hazardous wastes.
- ▶ To complete Item X of the form, you need to identify your hazardous waste by the correct EPA hazardous waste number. Perc wastes will have the hazardous waste number of **F-002** or **U-210**. The common waste types generated by dry cleaners are:
  - cooked powder residues.
  - still residues.
  - spent cartridge filters.
- ▶ Make sure your form is filled out completely and correctly and sign the certification in Item IX. Send the form to your state hazardous waste contact. This address is listed in the information booklet you received with the form.

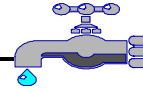
This information will be recorded by EPA and the state, and you will be assigned a U.S. EPA Identification Number. Use this number on all hazardous waste shipping papers.

The unique U.S. EPA Identification Number will stay with that particular physical dry cleaning site or location. If you move your dry cleaning business to another location, you must notify EPA or the state of your new location, submit a new form, and obtain a new U.S. EPA Identification Number. If hazardous waste was previously handled at the new location, and it already has a U.S. EPA Identification Number, you will be assigned that number for your relocated dry cleaning business.



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**Figure II-1**



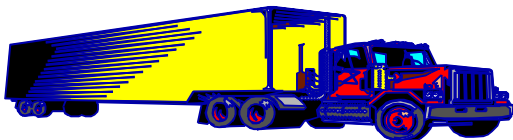
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### Select a Hazardous Waste Hauler and Designated Waste Treatment Facility

Careful selection of a hauler and a designated waste treatment facility is especially important because you, the dry cleaning facility, are **ultimately responsible** for any accidents during transport and the proper disposal of the wastes, which may include liability under Superfund. Before choosing a hauler or designating a facility, check with the following sources:

- ▶ Your friends and colleagues in the dry cleaning business.
- ▶ Your trade association(s).
- ▶ Your Better Business Bureau or Chamber of Commerce.
- ▶ Your state hazardous waste management agency or EPA regional office, which will be able to tell you whether or not a company has a U.S. EPA Identification Number.

These sources can supply you with information on possible complaints against or recommendations for specific haulers or treatment facilities.

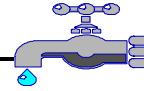


After checking these sources, contact the hauler and designated hazardous waste management facility directly to verify that they each have a U.S. EPA Identification Number, and that they can and

will handle your waste. In some states, the hauler and designated facility may be required to have a special license or permit to operate. Make sure that they have the necessary permits and insurance, and that the hauler's vehicles are in good condition. You may also want to ask them:

- ▶ To provide information on their track record.
- ▶ If they have ever been cited for improper practice.

Checking sources and choosing a hauler and designated facility may take some time--try to begin checking before you open your shop, well ahead of the time you will need to ship your waste.



### Step 3: Disconnect Drycleaning Process Wastes From Septic System Wastes

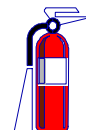
**Before** beginning operations, check all drains and pipes and know where they lead. If the drains and pipes lead to a septic tank, a dry well, or other shallow disposal system leading to the ground, ensure that no perc contaminated wastes are disposed through this system. Ensure that septic systems are used to dispose solely sanitary wastes. If a dry cleaner has been operated at your site previously, it is recommended that you test the septic tank and groundwater for previous perc contamination. If you do not, in the future, you may become liable for someone else's previous perc contamination.

Disposing of perc contaminated waste through the septic system has the potential to contaminate underground sources of drinking water, including the well that supplies drinking water to the dry cleaning plant. Stopping the contamination of groundwater may require expensive cleanup actions, such as pumping the septic tank and possibly removing soil and ground water around the septic system. Be safe! Save potential cleanup costs, time, and money, and most importantly prevent contamination by physically separating perc containing wastes from sanitary wastes.

If your drains and pipes lead to a municipal sewage system, call your local publicly owned treatment works (POTW) to let them know that you are operating a perc dry cleaner at your site. Ask them about local requirements that may apply. You

may need to get a permit prior to begin operation. It is recommended that you do not dispose of **anything** down the drain that may contain perc, even if the POTW allows it.





## Step 4: Contingency planning and accident prevention

### Develop a Contingency Plan

A contingency plan is a plan that attempts to look ahead and prepare for any accidents that could possibly occur. Although a written contingency plan is not federally required for **SQGs** or **CESQGs**, it is strongly recommended. It is also important to check with state and local authorities for any additional contingency plan or emergency preparedness requirements. A contingency plan can be thought of as a set of answers to a series of "what if" questions. For example: "What if there is a fire in the area where perc waste is stored?" or "What if I have a spill of hazardous waste or one of my



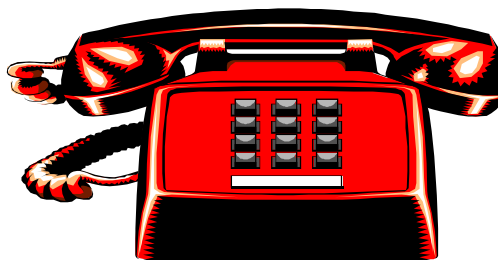
containers leaks?"

The following list gives some general directions to follow in case of an emergency:

- ▶ In the event of a **fire**, call the fire department or attempt to extinguish the fire using the appropriate type of fire

extinguisher.

- ▶ In the event of a **spill** or accidental release (an unusually large discharge) equal to or over 100 pounds of perc or when a spill has reached surface water, you must contain the flow of hazardous waste to the extent possible and notify the National Response Center. The Center operates a 24-hour toll free number: **1-800-424-8802**, or in Washington, D.C.: 426-2675. As soon as possible, clean up the hazardous waste and any contaminated materials or soil.
- ▶ In the event of a **fire, explosion, or other release**, which could threaten human health outside of the dry cleaning facility, immediately notify the National Response

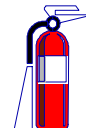


Center at **1-800-424-8802**.

During your telephone call to the National Response Center, give the following information:

- ▶ Your facility name, address, and EPA identification number (if you are an SQG).
- ▶ The date, time, and type of incident (for example, if it is a spill or fire).
- ▶ The quantity and type of hazardous waste involved in the incident.
- ▶ The extent of injuries, if any.
- ▶ An estimate of the quantity and location of any

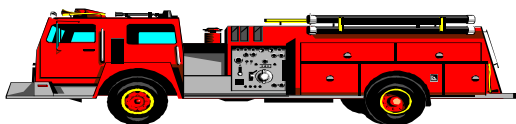




recovered materials, if any.

The RCRA regulations require that emergency phone numbers and locations of emergency equipment must be posted near telephones. This means that next to the phone you must post:

- ▶ Name, office and home phone numbers, and address of emergency coordinator.
- ▶ A site plan showing locations of **nearby**:
  - portable fire extinguishers.
  - special extinguishing equipment (if it uses foam, inert gas, dry chemicals, etc.)
  - fire alarms.
  - spill control equipment (absorbent cotton rags).
  - decontaminant equipment (safety shower, eye wash fountain).
  - water at adequate volume and pressure if needed to operate emergency equipment (such as water hoses, automatic sprinklers, water spray systems)
- ▶ The telephone numbers of:
  - fire department



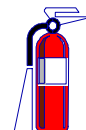
- police department
- ▶ Although not required, it is strongly recommended that you also post the following phone numbers by the telephone:
  - state or local emergency response teams
  - hospital
  - local ambulance service
  - National Response Center
  - State Department of Public Safety

In addition, **all employees** must know proper waste handling and emergency procedures. Review emergency procedures with employees. You must appoint yourself or an employee to act as the **emergency coordinator** to ensure that emergency procedures are carried out in the event of an emergency. The responsibilities of the emergency coordinator are:

- ▶ He/she (or someone designated by that person) will be available 24 hours a day (at the facility or by phone).
- ▶ He/she will know whom to call and what steps to follow in an emergency.

Because most dry cleaners are small businesses, the owner or operator probably already performs these functions. Therefore, it is not intended (nor is it likely) that you will need to hire a new employee to fill this role.

If you are unsure whether you should report and you have a serious emergency, you placed a call to your local fire department, or you have a spill that extends outside of your plant or that could reach surface waters, **IMMEDIATELY CALL THE NATIONAL RESPONSE CENTER (1-800-424-8802) AND GIVE THEM THE INFORMATION THEY ASK FOR.** If you didn't need to call, they will tell you so, **BUT ANYONE WHO WAS SUPPOSED TO CALL AND DOES NOT IS SUBJECT TO A \$10,000 FINE, A YEAR IN JAIL, OR BOTH.** An owner or manager of a dry cleaner who fails to report a release also may have



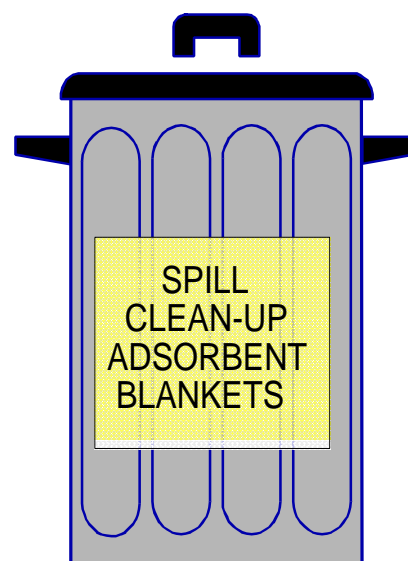
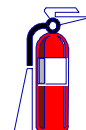
to pay for the entire cost of repairing any damage, even if the facility was not the single or the main cause of the damage.

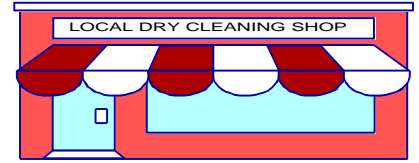
### Accident Prevention

In accordance with RCRA, your facility must have appropriate cleanup materials and emergency communication equipment for handling perc waste at your site. Some of the steps you may need to take to prepare for emergencies at your facility include:

- ▶ Making sure that there are no floor drains near the area where perc is used that lead to the sewer, septic tank, or storm water drain.
- ▶ Have absorbent cotton blankets in the area where perc solvent is used or stored and keeping them in a container marked with "spill cleanup adsorbent blankets."
- ▶ Store hazardous waste in areas away from doorways. The floor in your solvent storage area should be leak-proof (such as concrete with an epoxy coating). If there is a doorway nearby, a concrete barrier must prevent the solvent flowing out of the door in case of a large spill.
- ▶ Provide room for emergency equipment and response teams to get into any area in your facility in the event of an emergency.

- ▶ Write to local fire, police, and hospital officials or state or local emergency response teams explaining that you handle perc wastes and asking for their cooperation and assistance in handling emergency situations.
- ▶ Install and maintain emergency equipment (such as an alarm, a telephone, or two-way portable radios, fire extinguishers, hoses, and automatic sprinklers) in your facility so that it is immediately available to your employees if there is an emergency.
- ▶ Supervise any transfer of solvent that takes place on your premises. Take extra precautions if your perc solvent delivered from a tanker truck and piped through a hose into your dry cleaning solvent tank. If the hose breaks or the nozzle slips out of the tank, a large spill could occur.
- ▶ Set up your dry cleaning machine in a containment trough. Although not required by Federal regulations, some local regulations may require this structure for new dry cleaning machines. This structure must be non-porous (constructed of materials such as epoxy-coated concrete, fiberglass, or steel). Contact your EPA Regional Small Business contact or Dry Cleaning Trade Association for names of manufacturers of these products. It must be designed to contain 110% of the perc contained in any single solvent tank. It serves to capture perc leaks from malfunctioning equipment and to contain spills.





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## Section D: How do I properly operate my machine and shop to stay in compliance with environmental regulations?

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This section covers the steps that a dry cleaner needs to follow during normal operation of the dry cleaning shop to comply with air, hazardous waste, and water regulations. These steps include proper operation of equipment, periodic monitoring and reporting, and proper handling and storing of hazardous wastes.

Another important step is cooperating with inspection officials and using a visit by an inspector as an opportunity to identify and correct problems. Accompanying state or local inspectors on a tour of your shop will enable you to ask any questions you may have and receive advice on more effective ways of handling your hazardous products and wastes. In addition, guiding the inspectors through your property and explaining your operations may help them to be more sensitive to the particular problems or needs of your business. Accompanying state or local inspectors can also serve as a valuable source of information on record keeping, manifests, and safety requirements specific to your facility.

### Step 1: Staying in compliance with air regulations

#### Follow Good Housekeeping Practices, Including Leak Detection and Repair

To reduce the amount of perc emissions to the air, all perc dry cleaners must:

- ▶ Conduct a leak detection and repair program once each week while the equipment is operating. Search for all leaks that are obvious to sight, smell, or touch. A sample log sheet that you may use to record this weekly check is provided in **Figure II-2**. [Note that if you are **SMALL AREA** and exempt from installing controls, this program is only required every other week.]
- ▶ Whenever you find any leaks, repair them **within 24 hours**. Or, if parts are needed to repair the equipment, place the order for any repair parts within 2 working days after detecting the leak. Install the repair parts within 5 working days after you receive them.
- ▶ Keep the doors on your dry cleaning machines closed at all times except when loading or removing articles.
- ▶ Keep all perc and perc wastes in leak-proof, tightly covered containers.



- ▶ Place cartridge filters inside leak-proof, tightly covered containers to drain them.



Figure II-2

# MONTHLY MACHINE MAINTENANCE AND PERCHLOROETHYLENE LOG

### CHECK EVERY 7 DAYS

Put N -- for No Leak

Week \_\_\_ Week \_\_\_ Week \_\_\_ Week \_\_\_ Week \_\_\_

Put Y -- for Perceptible Leak

Date Date Date Date Date

1) Hoses, pipe connections, fittings, couplings, and valves					
2) Door gaskets and seatings					
3) Filter gaskets and seatings					
4) Pumps					
5) Solvent tanks and containers					
6) Water separators					
7) Muck cookers					
8) Stills					
9) Exhaust dampers					
10) Diverter valves					
11) Cartridge filter housings					

### CHECK EVERY 7 DAYS (Applicable Sections Only)

Week \_\_\_ Week \_\_\_ Week \_\_\_ Week \_\_\_ Week \_\_\_

(Monitoring not required for existing plants until September 22, 1996)

Date Date Date Date Date

Transfer system (washer) temperature difference (Measure difference between inlet and outlet temperatures of refrigerated condenser) (Write °C or °F)					
Dry-to-dry machines, dryers, and reclaimers Condenser temperature (outlet) (Write °C or °F)					
Carbon adsorber concentration (ppm)					

Perchloroethylene purchased: \_\_\_\_\_ gallons (calculate on first of every month).

Running 12 month total \_\_\_\_\_ gallons per year.

Date and description of repairs or adjustments \_\_\_\_\_

Were parts ordered? \_\_\_\_ If yes, when and what parts were ordered? \_\_\_\_\_

If yes, when were parts installed? \_\_\_\_\_

Staple or keep all solvent purchase receipts which also show perc volume, parts/repair invoices, and repair orders (if written) with this sheet and save for at least five years.



- ▶ Operate and maintain all of your dry cleaning equipment according to the manufacturer's instructions. An operator's manual should be included whenever you purchase dry cleaning equipment. Keep the manual near the equipment and inform all employees where it is kept. If you are unable to locate your manual or operating instructions, contact your local dry cleaning distributor or trade association who will help you find one. If you still do not have manuals for all of your equipment, **call EPA to obtain a copy of document number EPA-4531R-94-07, dated October 1994, for general recommended operating and maintenance** .

**Monitor Control Devices**

By testing your control equipment each week, you can check to make sure that it is running without problems. If your tests show that you have a problem, you must fix the problem before continuing to operate the machine.

If you have **EXISTING** machines, you must begin a monitoring program for your control equipment by **September 22, 1996**. If you have a **NEW** machine, you must begin a monitoring program **IMMEDIATELY** when you start operating your machine.

If a **REFRIGERATED CONDENSER** (or chiller) is your required control equipment, you need a temperature sensor. The temperature sensor that you use must be designed to measure a temperature range of at least 32 to 120°F and must be accurate to  $\pm 2^\circ\text{F}$ .

- ▶ You must **MEASURE THE TEMPERATURE OF THE PERC IN THE COOL-DOWN AIR STREAM** . If the air

stream leaving the refrigerated condenser is still warm, perc vapors inside the drum will not be removed sufficiently. Measuring the temperature will show whether perc is being removed from the drying clothes and recycled back into the solvent tank.

- ▶ If you have a dry-to-dry machine or a transfer dryer/reclaimer, you must measure the temperature of the perc air stream on the **OUTLET SIDE** of the refrigerated condenser. The temperature must be **LESS THAN OR EQUAL TO 45 °F**.
- ▶ To obtain a temperature sensor, contact your equipment manufacturer, your local dry cleaning equipment distributor, or a trade association.



**IF YOU DO NOT HAVE A TEMPERATURE SENSOR TO MONITOR YOUR REFRIGERATED CONDENSER FOR COMPLIANCE, OR IF THE TEMPERATURE DOES NOT FALL BELOW 45 °F, EPA STRONGLY URGES YOU TO CONTACT BOTH YOUR TRADE ASSOCIATION AND YOUR EQUIPMENT MANUFACTURER. PROPER INSTALLATION OF THE TEMPERATURE SENSOR IS VERY, VERY IMPORTANT TO YOU. IT MUST BE DONE CORRECTLY. OTHERWISE, COMPLIANCE MAY NEVER BE DEMONSTRATED. AND, ALSO VERY IMPORTANTLY, YOU MAY DO EXPENSIVE DAMAGE TO YOUR EQUIPMENT. EPA ADVISES THAT A REPUTABLE MECHANIC PERFORM THE INSTALLATION, IF ONE IS REQUIRED.**

- ▶ If you have a transfer washer, you must measure the **DIFFERENCE** between the temperature of the perc air stream entering and exiting the refrigerated condenser. The temperature difference must be **GREATER THAN OR EQUAL TO 20°F**. For example, if the temperature of the perc air stream entering the refrigerated condenser is 90°F and the temperature of the perc air stream exiting the refrigerated condenser is 50°F, then the **difference** would be:

$$90^\circ\text{F} - 50^\circ\text{F} = 40^\circ\text{F}, \text{ which is greater than}$$

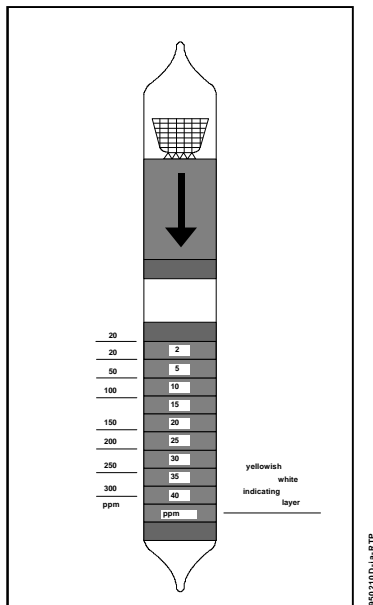


Figure II-3

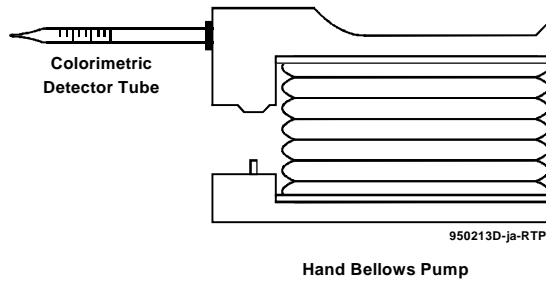
20°F

If you use a **CARBON ADSORBER** (or "sniffer") for required control of your perc emissions, it must have been **installed before September 22, 1993**. In addition,

- ▶ You must **SET UP A REGULAR WEEKLY DESORPTION SCHEDULE**. Your carbon adsorber becomes useless if you do not desorb it, or if you do not dry it thoroughly after desorbing it. Air from your machine will pass through it without removing the perc, and the perc will be sent into the air where people can breathe it.
- ▶ You must **MEASURE THE CONCENTRATION OF PERC IN THE EXHAUST STACK OF THE CARBON ADSORBER ONCE A WEEK** to check that the carbon adsorber is removing the perc and not letting the perc pass by into the exhaust.

Take the measurement during the last aeration cycle using a colorimetric detector tube. See **Figure II-3** for a picture of the type of tube required. Most tubes operate with a simple hand-operated pump (See **Figure II-4**). Some tubes are operated with a bellows pump that is squeezed several times. The tube is small, and can fit in the palm of your hand. It is filled with a chemical substance that changes color (usually varying shades of purple) depending on the perc concentration. Each tube can be used only one time. The result of the colorimetric detector tube test must show that the concentration of perc in the exhaust gas is 100 parts per million (ppm) or less. If the test shows a concentration greater than this level, then you must increase the number of times per week that you desorb, or look for equipment malfunctions. Ask your dry cleaning equipment distributor or trade association where to buy the tubes and to provide a demonstration on how to use them properly.

If you are a new **MAJOR** source that uses a carbon adsorber with a refrigerated condenser on a dry-to-dry machine where the exhaust passes through the carbon adsorber before the machine door is opened, then you must measure a concentration of 300 ppm to an accuracy of  $\pm 75$  ppm by volume inside the machine drum with a colorimetric detector tube.



**Figure II-4**

concentration (in ppm).

- ▶ If you are required to measure the temperature of your refrigerated condenser, use the recommended log sheet found in **Figure II-2** on **Page II-27** to record the temperature.

### **Perform Proper Record keeping and Reporting**

Each dry cleaner is required to keep certain records to show that good housekeeping practices and monitoring are being performed:

- ▶ After you search your machine for leaks, you must record your findings. It is recommended that you use a log sheet similar to the one found in **Figure II-2** on **Page II-27**. If repairs are needed, record the types of repairs needed on the log sheet. If you ordered repair parts, also fill in a description of the parts, and the date they were ordered.
- ▶ Your status of **SMALL AREA**, **LARGE AREA**, or **MAJOR** is determined by adding up all of the perc purchases made for **YOUR ENTIRE SHOP** during any 12-month period. (See **Tables II-2** and **II-3**). **SAVE THE RECEIPT EACH TIME YOU HAVE PERC DELIVERED FOR YOUR MACHINE(S)**. On the first day of each month, you must add together all of your perc purchases from the previous 12 months and record it. (See **Page II-8** for directions on how to calculate the monthly rolling average.) It is recommended that you use a log sheet similar to the one found in **Figure II-5** on **Page II-31** to record your purchases and 12-month totals.
- ▶ If you are required to test the exhaust of your carbon adsorber, use the recommended log sheet found in **Figure II-2** on **Page II-27** to record the







**FIGURE II-5**

SAMPLE LOG SHEET FOR PERC PURCHASES

PAGE \_\_\_\_\_

Starting amount: \_\_\_\_\_ (Amount of perc purchases reported in **INITIAL NOTIFICATION**)

MONTH/DAY/YEAR	AMOUNT OF PERC PURCHASED	12-MONTH AVERAGE

\*Staple or keep all perc purchase receipts with this form .



## Step 2: Staying in compliance with hazardous waste regulations

### Know On-Site Storage Limits

If you are a CESQG, you may store up to 2,200 lb (1,000 kg) of hazardous waste on your site. There is no time limit for how long you are allowed to store this waste. However, if you exceed this amount, you become an SQG. If you are an SQG, you may store no more than 13,200 lb (6,000 kg) of hazardous waste on your site for up to 180 days, or for up to 270 days if the waste must be shipped to a treatment, storage, or disposal facility that is located over 200 miles away. If you exceed these time or quantity limits, you will be considered a storage facility and you must obtain a storage permit (see below) and meet all of the RCRA storage requirements. These time limits on storage are longer than the 90 days allowed LQGs. SQGs are allowed to store waste for as long as 180 or 270 days so that they will have time to accumulate enough hazardous waste to ship it off-site for



treatment or disposal economically.



**NOTE: THE HAZARDOUS WASTE STORAGE LIMITS FOR YOUR STATE MAY BE MORE STRINGENT THAN THE FEDERAL REQUIREMENTS, SO ALWAYS CHECK WITH YOUR STATE AGENCY.**

### Follow Requirements for On-site Hazardous Waste Storage

You can store hazardous waste in 55-gallon drums, tanks, or other suitable containers if you follow certain common sense rules that are meant to protect human health and the environment **and** reduce the likelihood of damages or injuries caused by leaks or spills of hazardous wastes.

If you store your hazardous waste in **drums or containers**, you must follow these common sense rules:

- ▶ Clearly mark each container with the words "HAZARDOUS WASTE," and with the date you began to collect waste in that container. (Labels for this purpose are also available from your hauler or trade association.)
- ▶ Although marking the EPA waste code on the drum is not required by federal regulations, it is required by most states and is highly recommended.
- ▶ Keep containers in good condition, handle them carefully, and replace any leaking ones.
- ▶ Do not store hazardous waste in a container if it may cause rupture, leaks, corrosion, or other failure.
- ▶ Keep containers closed except when you are adding or removing wastes.



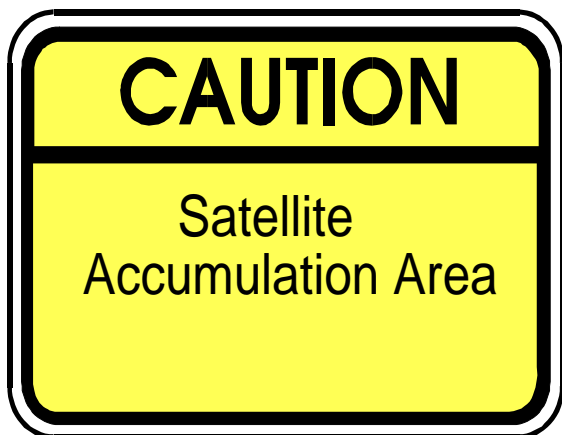
- ▶ Inspect the container for leaks or corrosion every week.
- ▶ NEVER store in the same container wastes that could react together to cause fires, leaks, or other releases. If all your wastes are perc-related then this requirement is not of concern to you.
- ▶ Make sure that the stored waste is taken off-site to be properly disposed of within 180 (or 270) days if you are an SQG.
- ▶ Inspect monitoring or gauging systems on each operating day and inspect the tanks every week for leaks or corrosion.
- ▶ Use the National Fire Protection Association's (NFPA) buffer zone requirements for tanks containing ignitable or reactive wastes. These requirements specify distances considered as safe buffer zones for various liquids based on the characteristics of all combustible and flammable liquids. Call your local fire department or EPA regional office (see **Appendix A**) if you need help.



**NOTE THAT MOST PERC DRY CLEANERS DO NOT HAVE TANKS.**

However, if you store your waste in **tanks**, you must follow similar common sense rules:

- ▶ Do not store hazardous waste in a tank if it may cause rupture, leaks, corrosion, or other failure.
- ▶ Keep tanks covered or provide at least 2 feet of freeboard (space at the top of the tank) in uncovered tanks.
- ▶ If your tanks have equipment that allow the waste to flow into them continuously, provide waste feed cutoff or bypass systems to stop the flow in case of problems.



- ▶ Make sure that the stored waste is taken off-site to be properly disposed of within 180 (or 270) days if you are an SQG.

#### **Know About Accumulating Hazardous Waste in Satellite Areas**

A dry cleaner that is an SQG is allowed to collect up to 55 gallons of perc hazardous waste in a properly labeled drum or container kept near the dry cleaning machine. The drum must be marked with the words **HAZARDOUS WASTE** or with other wording that identifies the contents of the container. Such a drum is then located in a "Satellite Accumulation" area. However, once the amount of perc waste in the drum reaches 55 gallons, it must be marked with the date it reaches that amount, and the dry cleaner must move the container to the designated on-site hazardous waste storage area within 72 hours (3 days). The dry cleaning machine operator is responsible for this drum as long as it is kept separate from the designated storage area. If you are an SQG this storage area can contain up to about 13,200 lb (6,000 kg or 60 55-gallon drums).



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### Reduce the Amount of Hazardous Waste You Generate

Good hazardous waste management can be thought of as simply using "good housekeeping" practices such as: performing proper drying (reclamation) and distillation, using and reusing materials as much as possible; recycling or reclaiming waste; or reducing the amount of waste you generate. To reduce the amount of waste you generate:

- ▶ Do not mix nonhazardous wastes with hazardous ones. For example, do not put nonhazardous cleaning agents or rags in the same container as perc wastes or the entire contents become subject to the hazardous waste regulations.
- ▶ Avoid mixing several different hazardous wastes. Doing so may make recycling very difficult, if not impossible. It may also make disposal more expensive.



- ▶ Avoid spills or leaks of hazardous products. (The materials used to clean up such spills or leaks also becomes hazardous waste.)
- ▶ Make sure the original containers of hazardous products, such as spotting chemicals, are completely empty before you throw them away. Use **ALL** of the product.
- ▶ Avoid using more of a hazardous product than you need. For example, use no more

perc than you need to do the job.

Reducing your hazardous waste means saving money on raw materials and reducing the costs to your business for managing and disposing of your hazardous wastes.

### Conduct Weekly Inspections

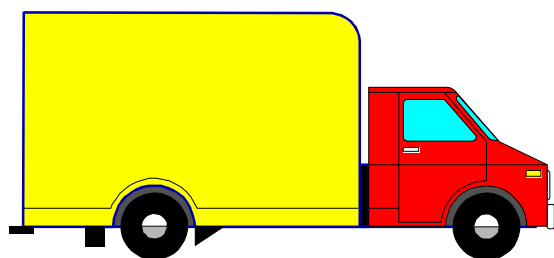
If you are an SQG, you must inspect your hazardous waste storage areas weekly to make sure that drums are in good condition. During your inspection, you must make sure:

- ▶ All drums are labeled/marked appropriately.
- ▶ There is sufficient space to walk in the storage area.
- ▶ All drums are stacked properly.
- ▶ All drum lids are closed tightly.

Any problems should be corrected immediately. If any corrections are made, they should be noted in a permanent record and kept on file for at least 3 years. It is recommended that you place appropriate signs warning other employees that this is a hazardous waste storage area.



**REMEMBER: IF YOU ARE STILL UNCERTAIN ABOUT HOW TO HANDLE YOUR HAZARDOUS WASTE, OR HAVE ANY QUESTIONS CONCERNING THE RULES FOR 100-1000 KG/MO GENERATORS, THERE ARE SEVERAL SOURCES LISTED IN APPENDIX A THAT YOU CAN CONTACT FOR ANSWERS. TAKING RESPONSIBILITY FOR PROPER HANDLING OF HAZARDOUS WASTE WILL NOT ONLY ENSURE A SAFER ENVIRONMENT AND WORKPLACE FOR EVERYONE, BUT WILL SAVE YOUR BUSINESS MONEY. SO WRITE OR CALL YOUR STATE HAZARDOUS WASTE MANAGEMENT AGENCY OR THE U.S. EPA WITH YOUR QUESTIONS TODAY.**



#### **Follow Record keeping and Reporting for Hazardous Waste Management Practices**

Each dry cleaner that is an SQG is required to keep certain records to show that good housekeeping practices and monitoring are being performed. These required records must be kept at your facility for 3 years and include:

- ▶ Weekly records showing that the hazardous waste storage area is in good condition or, if a problem is found, a description of the problem and the correction.

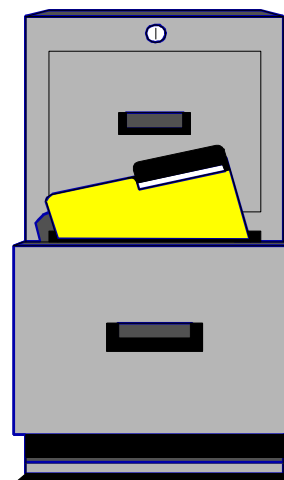
- ▶ Records of monthly inspections of emergency equipment.
- ▶ Copies of all hazardous waste manifests.
- ▶ A log that includes the number for each hazardous waste manifest and the day it was shipped. This log must be checked weekly to make sure that the return copy of each manifest has been received within 60 days.
- ▶ Copies of all Notification of Hazardous Activity forms submitted to and received from the state or the EPA.

#### **Follow Record keeping and Reporting for Hazardous Waste Shipments:**

##### **Fill Out the Uniform Hazardous Waste Manifest**

A hazardous waste manifest is a multi-copy shipping document that you must fill out. It must accompany your hazardous waste shipments. This manifest is required for SQGs. Although manifests are not required for CESQGs, they are recommended.

The manifest form is designed so that shipments of hazardous waste can be tracked from





their point of generation to their final destination-- the so-called "cradle-to-grave" system. The hazardous waste generator, the hauler, and the recipient at the final destination (the disposal/treatment facility) must each sign this document and keep a copy. The designated facility operator also must send a copy back to you, so that you can be sure that your shipment arrived. You must keep this copy, which will be signed by the hauler and designated facility, on file for 3 years.



**REMEMBER : JUST BECAUSE YOU HAVE SHIPPED THE HAZARDOUS WASTE OFF YOUR SITE AND IT IS NO LONGER IN YOUR POSSESSION, YOUR LIABILITY HAS NOT ENDED. YOU ARE POTENTIALLY LIABLE UNDER SUPERFUND FOR ANY MISMANAGEMENT OF YOUR HAZARDOUS WASTE. THE MANIFEST WILL HELP YOU TO TRACK YOUR WASTE DURING SHIPMENT AND MAKE SURE IT ARRIVES AT THE PROPER DESTINATION.**

You can obtain blank copies of the manifest from several sources. To determine which source you should use, use this system:

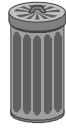
- ▶ Your hauler.
- ▶ The state to which you are shipping your waste.
- ▶ The state where you generate waste.
- ▶ If neither state requires a state-specific manifest, you may use the "general" Uniform Hazardous Waste Manifest--EPA Form 8700-22. Copies are available from some haulers and designated hazardous waste management facilities, or they may be purchased from some commercial printers.

A sample copy of a hazardous waste manifest is shown in **Figure II-6**. When you sign the certification in ITEM 16 you are personally confirming that:

- ▶ The manifest is complete and accurately describes the shipment.
- ▶ The shipment is ready for transport.
- ▶ You have reduced the amount and hazardous nature of your wastes to the greatest extent possible (within your budget constraints).

States, haulers, recyclers, and designated facilities may require additional information; check with them before you prepare a hazardous waste shipment. Your hazardous waste hauler often will be the best source for packaging and shipping information and will help in completing the manifest. If you have any trouble obtaining, filling out, or using the manifest, ask your hauler, your designated facility operator, or one of the contacts listed in **Appendix A** for help.





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**Figure II-6**



### Exception Reports

An SQG must file an **Exception Report** if the return copy of the hazardous waste manifest is missing. If the manifest copy, which must be hand signed by the final destination facility, is not received by the SQG within 60 days of the date that the waste was initially shipped, the SQG must submit to the EPA Regional Office (See list in **Appendix A**) a copy of the manifest and an explanation that no confirmation of delivery was received. If you do not receive a signed copy from the designated hazardous waste management facility within 30 days, it is a good idea for you to find out why and, if necessary, let the state or EPA know.

### Notify Your Management Facility About Land Disposal Restrictions

If you are an SQG (based on requirements given in **Table II-5** on **Page II-11**), for **each** shipment of hazardous waste that you send off site, you must provide the designated receiving facility with a **LAND DISPOSAL RESTRICTION NOTIFICATION**. Although no form has been developed by EPA to report this information, the following information is required:

- ▶ EPA Hazardous Waste number (for perc waste, this is F002).
- ▶ The chemical of concern (which is tetrachloroethylene)
- ▶ Treatability group (wastewater or nonwastewater). For sludge waste, or nonwastewater, the concentration of perc in the waste cannot exceed 6.0 mg per liter. For wastewater, the concentration of perc cannot exceed 0.054 mg/L.

- ▶ The manifest document number for the particular hazardous waste shipment. (See **item 1 on THE HAZARDOUS WASTE MANIFEST**).
- ▶ Waste analysis data (if available).

## **Step 3: Staying in compliance with wastewater standards**



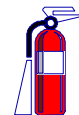
### Know General Discharge Prohibitions

You must know how much perc you are allowed to discharge to the sewer based on state/local requirements and the proper reporting and record keeping activities if you exceed these levels. Contact your state or local water agency for the specific requirements on discharges and reporting and record keeping.

### Know Underground Injection Well Requirements

**Do not dispose of any perc waste into your septic system.** If you do, you become subject to enforcement action, remediation (cleanup or closure), or obtaining a permit. The specific enforcement action will be determined by the Underground Injection Control Program Director for your state.





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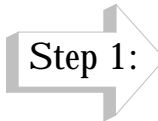
## Section E: What do I do if an accident happens?

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In Section C, we discussed the need for a contingency plan and preparation for emergencies or spills. This section explains what to do if you actually do have an accidental or emergency release of perc or perc wastes. Note that if an accident should occur at your facility, you must also follow any applicable OSHA requirements.

The type of response taken in the event of an accident or spill depends upon several factors:

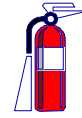
- The **form** in which it is discharged or released: is it liquid, solid waste, or a vapor?
- The **size** of the discharge: is it a few drops? a few gallons?, or many gallons?
- The **purity** of the discharge: is it unused solvent? is it wet still bottom material?
- The **cause** of the accident or release: is it a loading spill? control equipment malfunction? fire or explosion?

 **Step 1: Hazardous waste contingency plan**



### Comply with Contingency Plan

Most accidental releases of perc will be covered under RCRA. This includes spills of solid hazardous wastes, liquid solvent or hazardous wastes, or discharges into the sewer of liquid perc.

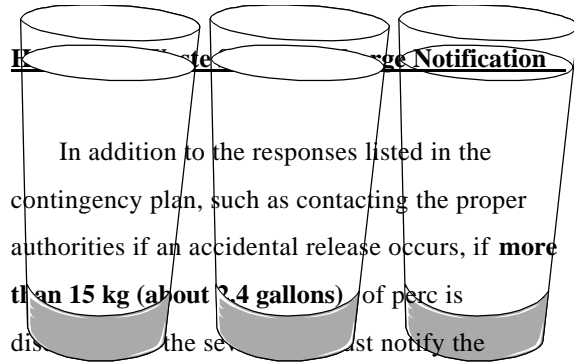
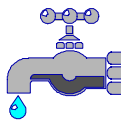


Notification under CERCLA (Superfund) is required in those cases where a spill occurs that is greater than **100 pounds** of liquid perc. Response to accidents or emergencies such as fire, explosion, or spill should follow the procedures you outlined in your contingency plan. (See **Section II-D**)

If over 100 kg (about 16.6 gallons) is discharged to the sewer then you must also include the following in the notification:

- What hazardous constituents are in the waste (for dry cleaners, it would be perc, or any other potential solvents).
- An estimate of how much (mass and concentration) was discharged during that month.
- An estimate of how much you will discharge in the next 12 months.

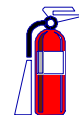
## Step 2: Hazardous waste discharge notification



**Example Notification**

In addition to the responses listed in the contingency plan, such as contacting the proper authorities if an accidental release occurs, if **more than 15 kg (about 4 gallons)** of perc is discharged to the sewer, you must notify the treatment plant, your EPA Regional Waste Management Division Director, and the state hazardous waste authority. The notification must be in **writing** and include:

- The name of the hazardous waste ("perchloroethylene").
- The EPA hazardous waste number (For example: "F002" if it is waste from a still bottom, cooked powder residue, or cartridge filter; "U210" if it was unused perc from the machine or storage tank).
- The type of discharge (For example: "batch" for a single event spill, such as a drum or container; or "continuous" for a large spill that is not stopped).

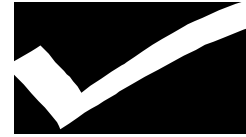


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**Hazardous Waste Septic System Discharge Notification**

If **ANY** amount of perc is discharged to the septic system, you must notify immediately the EPA Regional Underground Injection Control Program Director and/or the State Underground Injection Control Program Director . A list of these contacts is provided in **Appendix A** .





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# Part III: Questions that An EPA Inspector May Ask While Visiting Your Perc Dry Cleaning Facility

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## General



Are you aware of the NESHAP and other media regulations that apply to perc dry cleaners?

Do you know how to contact the small business technical assistance program in your state? Have you received any assistance from them?

How do you usually find out about the local, state, and Federal environmental regulations impacting your dry cleaning business?

Are you receiving articles to clean from other dry cleaning stores?

Is your store front name the same as your actual company's name?

Do you have a U.S. EPA Identification Number? If so, what is it? Can you show documentation to support it?

Show me where you store your still residues, spent cartridges, cooked powder residue, and other hazardous wastes. Are the containers kept closed and secured? Are they properly labeled? Do you inspect these containers regularly to make sure they are not leaking?

How often do you fill a 55-gallon drum with hazardous waste?

Do you drain spotting chemicals and other chemicals completely to make sure that the container is legally empty and not regulated as a hazardous waste?

Do you treat your hazardous waste on site, or do you use a hazardous waste transporter to remove it off site?

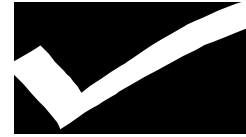
Show me your manifest logs.

Do you have an emergency plan in case of an accident? Are all employees aware of it?

## Hazardous Waste



What environmental permits do you have? Can you show them to me?



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Are your perc storage tanks diked, and is the dike coated on the inside with a sealer? Could a leak from your perc storage tank be contained?

## Air

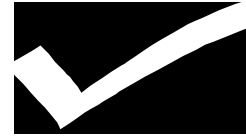


Have you sent your Initial Notification Report and your Pollution Prevention Compliance Report to your EPA Regional Office? Have you sent your Control Requirements Compliance Report if a control device is required?

Show me your records of perc purchases and calculations for rolling yearly averages. (These records must be kept onsite for at least 5 years.)

Do you have a copy of the design specifications and the owner's operation and maintenance manual for your dry cleaning machines and control equipment? Show me your manual. If you do not have one, show me a copy of the EPA document, *General Recommended Operating and Maintenance Practices* (EPA-4531R-94-07), dated October 1994, which you should have on hand instead. Does your manual contain standard operating procedures that could be used as your Startup, Shutdown, Malfunction plan?

If you are operating a refrigerated condenser as control equipment on your dry-to-dry machine, show me how you take a temperature reading for your compliance test. How often do you perform this test? Show me your log where you record this temperature. What do you do if the outlet temperature is above 45°F?



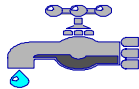
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If you are operating a refrigerated condenser or control equipment on your transfer washer, show me how you measure the inlet and outlet temperature difference on the refrigerator condensers. What do you do if this temperature difference is 20 °F or less?

When was your carbon adsorber/sniffer installed?  
How often do you desorb your carbon adsorber?  
Show me how you take an outlet perc concentration reading. How often do you perform this test? Show me your log where you record the ppm concentration. What do you do if this outlet concentration exceeds 100 ppm?

Show me how you perform your leak detection test. Show me your log where you record findings. How often do you perform this test? Show me your log where you record repair dates and keep orders for repair parts.

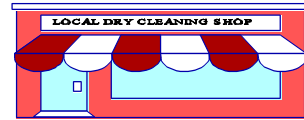
## Water



Are your pipes and drains connected to the city/town sewer system? Or a septic system?

What steps would you take if you had a perc spill?  
What would you do if that perc spill reached your drains?

Do you understand the Federal Underground Injection Control Program? Would you like additional information on the program?



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## Part IV: Commonly asked questions

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### WHO is subject?

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- Why are air emissions from dry cleaners being regulated by the states and the US EPA?

*"Perc" or perchloroethylene is one of the 189 chemicals listed as a hazardous air pollutant in the Clean Air Act. Dry cleaners were identified as the most widespread air emitters of perc. For this reason, they are being regulated by EPA under the NESHAP program. See **Pages I-2 to I-5** for a summary of these NESHAP requirements.*

- If a facility is existing and moves equipment to a new site, does it become a new facility or it is still an existing facility? Does moving, selling, or buying an existing business make me subject to any special NESHAP requirements?

*If a facility is operating one or more dry cleaning machines that were originally installed before December 9, 1991, and that facility moves these machines to a new location, these same machines now housed at the relocated facility are still considered "existing" machines. Note that the "new" and "existing" descriptions apply only to the machines. If a facility with an "existing" machine purchases an additional machine, that facility would have both a "new" and "existing" machine and be required to follow the applicable NESHAP requirements for each one. Yes, if an "existing" machine has changed ownership or location, it is important to maintain records that prove that the original installation occurred before December 9, 1991. See **Page I-2**.*

- I use a petroleum solvent at my dry cleaning facility. Am I subject to EPA requirements?

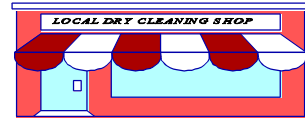
*Although not covered in this document, dry cleaners using petroleum solvent are subject to certain EPA requirements. EPA does regulate petroleum dry cleaners with an NSPS found in 40 CFR Part 60, Subpart JJJ. A NESHAP for air emissions from petroleum dry cleaners is scheduled for completion November 15, 2000. Also, you may be subject to hazardous waste and waste water requirements. Contact your state agency or EPA Regional Office listed in **Appendix A** to learn more about specific requirements for petroleum dry cleaners.*

### WHEN do I need to comply?

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- When must I install the equipment for the air requirements?

*For air requirements, an Initial Notification Report and a Pollution Prevention Compliance Report were required of all perc dry cleaning facilities on June 18, 1994. All facilities were required to start their leak detection and repair program on December 20, 1993. The compliance date for installing regulatory-mandated control equipment on a "new" dry cleaning machine is immediately upon startup. A compliance report for "new" machines is required within 30 days of startup. Compliance tests for control equipment must also begin at this time. The compliance date for installing regulatory-mandated control equipment on an "existing" dry cleaning machine is September 22, 1996. Compliance reports for "existing" machines are not due until October 22, 1996. The compliance date for performing control equipment compliance tests on "existing" machines is September 22, 1996. The hazardous waste*



and waste water requirements depend on the startup time of the facility rather than specific regulatory mandated dates. For a more detailed discussion, see **Pages I-2 to I-13 and Pages II-1 to II-25.**

## **WHAT** are the requirements?

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- What are the Federal air requirements?

*The federal air requirements are summarized on **Pages I-2 to I-5.** Your state's requirements may be more stringent than the Federal requirements, so **ALWAYS** check with your state agency.*

- What type of equipment must I use to comply with the NESHAP?

*For each "**new**" dry cleaning machine at your facility, you must use a no-vent refrigerated condenser on a dry-to-dry machine to comply with the NESHAP. If you are dry cleaning facility with yearly perc purchases of 140 gallons or greater (this cutoff increases to 200 gallons if you have only transfer machines at your facility), you are required to use a refrigerated condenser on any "**existing**" dry-to-dry or transfer machine, but you are also allowed to continue using an existing carbon adsorber. For more detail about these requirements, see **Pages II-2 to II-8.***

- What waste regulations apply to me?

*The federal hazardous waste regulations that apply to dry cleaners are summarized on **Pages I-6 to I-9.** The hazardous waste regulations for your state may be more stringent than the federal requirements, so **ALWAYS** check with your state agency.*

- What water regulations apply to my facility?

*The water regulations that apply to your facility depend on several factors, including whether your discharge pipes and drains are connected to a sanitary sewer, septic tank, or on-site holding tank as well as state and local requirements specific to your area. For a more detailed explanation of which water regulations apply to your facility, see **Pages I-10 to I-13, II-13 to II-15, and II-40.** Contact your state water office. Your EPA Regional Water contact listed in **Appendix A** can assist you in identifying your state contact.*

## **WHERE** do I get (and give) information?

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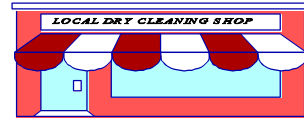
- How can I get more information and/or assistance regarding dry cleaning regulations?

*For additional information or assistance, call your EPA Regional contacts and Small Business contact listed in **Appendix A.** Also call the dry cleaning trade association and your state agency.*

- How do I open a dry cleaning business and who do I need to contact? (What forms do I need to fill out?)

*Before you open your dry cleaning business, it is recommended that you contact one of the dry cleaning trade associations as well as your EPA Regional contact listed in **Appendix A.** The types of forms you will need to fill out are discussed in more detail on **Pages II-1 to II-40** and in **Appendix B.***





## HOW do I comply?

- What are the reports I must file registering the pollution generated by my equipment?

*The reports you are required to file for hazardous waste generation are discussed in more detail on **Pages II-17 to II-21 and Pages II-32 to II-38**. The reports you are required to file for air pollution are discussed on **Pages II-26 and II-30** with example forms given in **Appendix B**.*

- What will an inspector look for in an inspection?

*See the check list included in **Part III** to find out the types of questions that an inspector may ask during an inspection.*

- I currently have a closed dry cleaning system, but I do not use a refrigerated condenser or carbon absorber. Do I have to change equipment to comply with the regulation? Do I need to buy a new machine?

*To meet the regulatory-mandated requirements of the NESHP, it is not necessary for you to purchase a new machine. Talk with a representative at the dry cleaning trade association or your EPA Regional contact and review your dry cleaning machine manual closely to make sure that your closed system does not contain a refrigerated condenser or a carbon adsorber. If they verify that you do not have a refrigerated condenser or a carbon adsorber then, yes, the regulation requires that you must retrofit a refrigerated condenser on your machine if your facility has yearly perc purchases of 140 gallons or greater (this cutoff increases to 200 gallons if you have only transfer machines at your facility). If you have an older uncontrolled machine and plan to purchase a new machine, the NESHP requires you to*

*obtain a no-vent refrigerated condenser controlled dry-to-dry machine.*

- Are Colorimetric Detector Tubes necessary for monitoring my equipment? Is an Organic Vapor Analyzer (OVA) sufficient?

*If you are using a carbon adsorber on your "existing" machine to meet the regulatory-mandated requirements then, yes, you must use a colorimetric detector tube to test weekly for the ppm concentration of perc in the outlet exhaust of the carbon adsorber. However, when you are performing your weekly leak check, you can use any type of device that will give an adequate indication of whether leaks are occurring. Devices such as a colorimetric detector tube, a halogen leak detector, or an OVA could be used for this purpose.*

- Where exactly do I monitor for leaks around my machine?

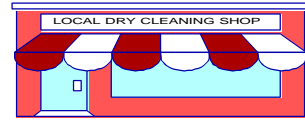
*A detailed checklist of areas to monitor around your machine is given on **Pages II-26 to II-28**.*

- I own several stores that are for pick-up purposes only; no dry cleaning is done on-site. Do I have to submit an initial notification form for these facilities?

*If you operate only pickup stores where no perc dry cleaning is performed onsite then you are not required to submit an initial notification report for those pick-up stores.*

- Since I submitted my initial notification form, I have made some modifications to my facility. Do I need to resubmit my initial notification form or submit a letter indicating the changes made?

*If you have already submitted your initial notification form and you have made additional changes to your facility then you do not need to submit an additional notification report. However, you may need to submit an updated compliance report.*



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See **Page I-5** to find out if you have triggered any of the three reasons that require resubmittal of an updated compliance report.

Dispose of spent cartridge filters along with other perc waste through a reputable hazardous waste hauler. See **Pages II-9 to II-12, and II-32 to II-38** for a more detailed discussion of hazardous waste disposal requirements.

- Where, how, and when do I measure the temperature of the perc-air stream?

*A discussion of the procedure for measuring the temperature of the perc air stream out of the refrigerated condenser on your transfer washer is found on **Page II-28**.*

- How do I calculate a rolling yearly average of perc purchases?

*A detailed explanation of the steps for calculating the rolling yearly average for perc purchases is found on **Page II-8**.*

- Where do I get Colorimetric Detector Tubes?

*Call the representative at your local trade association or your EPA Small Business Regional contact in **Appendix A** who can recommend a local distributor who will be able to supply you with colorimetric detector tubes.*

- Do I need an EPA identification number?

*If you are shipping hazardous waste offsite you will need to get an EPA identification number. See **Pages II-19 to II-21** for a detailed discussion on how to get this number.*

- What do I do about my wastewater?

*It is recommended that you **DO NOT** put any perc or waste containing perc down your drains that are routed to a sewer, septic tank, POTW, or on-site holding tank. Regulations governing the disposal of wastewater are discussed in more detail in **Pages I-10 to I-13, II-13 to II-16, and II-40**.*

- How can I dispose of spent filters?



# **APPENDIX A**

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## **EPA Regional Office Dry Cleaning Air Contacts**

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Abdi Mohamoud  
EPA Region I (AEO)  
JFK Federal Bldg  
Boston, MA 02203-2211  
(617) 565-4044

Venkata Rao  
EPA Region II  
290 Broadway  
New York, NY 10007-1866  
(212) 637-4053

Sang Nam  
EPA Region III (3AT12)  
841 Chestnut Bldg  
Philadelphia, PA 19107  
(215) 597-9318

Phillip Barnett  
EPA Region IV  
345 Courtland Street, NE  
Atlanta, GA 30365  
(404) 347-2904

Sam Portanova (AR-18J)  
EPA Region V  
77 W. Jackson Blvd  
Chicago, IL 60604  
(312) 886-3189

Tom Driscoll  
EPA Region VI (6T-EC)  
1445 Ross Avenue  
Dallas, TX 75202-2733  
(214) 665-7598

Gary Schlict  
EPA Region VII  
726 Minnesota Avenue  
Kansas City, KS 66101  
(913) 551-7097

Heather Rooney  
EPA Region VIII (8ART-AP)  
999 18th Street  
Denver Place, Suite 500  
Denver, CO 80202-2405  
(303) 293-1886

Mae Wang  
EPA Region IX  
75 Hawthorne Street  
San Francisco, CA 95105  
(415) 744-1200

Chris Hall  
EPA Region X (AT-082)  
1200 6th Avenue  
Seattle, WA 98101  
(206) 553-1949



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## **EPA Regional Office Small Business Contacts**

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Emanuel Souza  
EPA Region I  
JFK Federal Building  
Mail Code APS  
Boston, MA 02203  
(617) 565-3248

Christine Fazio  
EPA Region II  
Air Compliance Branch  
26 Federal Plaza, Room 500  
New York, NY 10278  
(212) 264-4333

Lisa Donahue  
EPA Region III  
Mail Code 3AT-11  
841 Chestnut St.  
Philadelphia, PA 19107  
(215) 597-9781

Kay Prince  
EPA Region IV  
Mail Code APTMD  
345 Courtland St., N.E.  
Atlanta, GA 30365  
(404) 347-3555 x4221

Beth Valenziano  
EPA Region V  
Regulation Development Branch  
Mail Code AT-18J  
77 West Jackson Blvd.  
Chicago, IL 60604  
(312) 886-3189

Lynn Prince  
EPA Region VI  
Mail Code 6T-AG  
1445 Ross Ave.  
Dallas, TX 75202  
(214) 665-7265

Ann Keener  
EPA Region VII  
Mail Code PBAF  
726 Minnesota Ave.  
Kansas City, KS 66101  
(913) 551-7388

Laura Farris  
EPA Region VIII  
999 18th St., Suite 500  
Mail Code 8ART-AP  
Denver, CO 80202  
(303) 294-7539

Mike Stenburg  
EPA Region IX  
Mail Code A1  
Air Division  
75 Hawthorne St.  
San Francisco, CA 94105  
(415) 744-1102

Dave Dellarco  
EPA Region X  
Mail Code AT-082  
1200 6th Ave.  
Seattle, WA 98101  
(206) 553-4978



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## **EPA Regional Office Dry Cleaning Hazardous Waste Contacts**

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Region I

Region II

Region III

Elizabeth Sawyer  
Region IV  
(404) 347-2904 x6377

Region V

Region VI

Gary Bertram  
Region VII  
(913) 551-7533

Region VIII

Region IX

Region X



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## **EPA Regional Office Dry Cleaning Wastewater Contacts**

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Region I

Region IX

Region II

Region X

Region III

Al Herndon  
Region IV  
Pretreatment  
(404) 347-2904 x4236

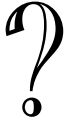
Scott Gordon  
Region IV  
Underground Injection Control Program  
(404) 347-2904 x6666

Richard Zdanowicz  
Region V  
Underground Injection Control Program  
77 West Jackson Blvd.  
Chicago, IL 60604

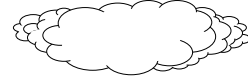
Region VI

Region VII

Region VIII







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## **APPENDIX B**

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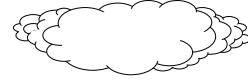
**Appendix B** includes copies of three types of forms used for compliance with the NESHAP. Every owner or operator of a perc dry cleaning facility is required to fill out **THE INITIAL NOTIFICATION REPORT** and submit it to the appropriate EPA Regional contact given in **Appendix A**.

The owner or operator of each perc dry cleaning facility is required to fill out **THE COMPLIANCE REPORT FOR POLLUTION PREVENTION** . Where compliance with an emission control device is required, the owner or operator must complete **THE COMPLIANCE REPORT FOR CONTROL REQUIREMENTS** . These completed forms must be submitted to the appropriate EPA Regional contact.

If you have any questions concerning these reports, call your EPA Regional contact listed in **Appendix A**.

---

FACILITY ID NO. \_\_\_\_\_ (FROM ADDRESS LABEL)



INITIAL NOTIFICATION REPORT

1. Print or type the following for each separately located dry cleaning plant (facility). The owner of more than one plant must fill out a separate form for each plant.

Owner/Operator: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Plant Address:

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ County: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone Number: \_\_\_\_\_

2. Check the box below if:

your dry cleaner is a pick-up store.

your dry cleaning plant has only coin-operated dry cleaning machines that are operated by the customers.

your dry cleaning plant has only petroleum dry cleaning machines.

**If you checked either box above, you can STOP HERE and return the form to the address given in the accompanying letter.**

3. Write in the total volume of perchloroethylene (perc) purchased for ALL of the machines at the dry cleaning plant over the past 12 months:

\_\_\_\_\_ gallons

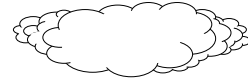
NOTE: If perchloroethylene purchase records have not been kept at the plant, the volume may be estimated for this initial report.

Method of determining gallons (circle one):

actual      estimated

4. Next to each machine type listed below, write the number of machines of that type located at your plant:

\_\_\_\_\_ Dry-to-Dry      \_\_\_\_\_ Transfer

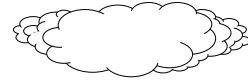


FACILITY ID NO. \_\_\_\_\_ (FROM ADDRESS LABEL)

5. Provide the following information for EACH MACHINE at your plant. If you have more than four machines at your plant, make additional copies of this page.

	Machine 1	Machine 2	Machine 3	Machine 4
Machine Type (Circle One)	Dry-to-Dry or Transfer	Dry-to-Dry or Transfer	Dry-to-Dry or Transfer	Dry-to-Dry or Transfer
Date Machine Was Installed				
Control Device (Use WORKSHEET on Pages 5 & 6 to Determine Required Control)				
Date Control Device Was Installed or Is Planned to Be Installed				

6. The following pollution prevention practices must be performed at your plant starting on 12/20/93. These practices are listed on an attached sheet that can be posted next to your machine:
- Conduct a weekly leak detection and repair program to inspect all dry cleaning equipment for leaks that are obvious from sight, smell, or touch. NOTE: This program is required every other week if you wrote NO CONTROL REQUIRED in the shaded box in Question 5.
  - Repair leaks within 24 hours after they are found, or order repair parts within two working days after detecting a leak that needs repair parts. Install the repair parts by five working days after they are received.
  - Keep a log of the weekly (or biweekly) results of the leak detection and repair program.
  - Follow good housekeeping practices, which include keeping all perc and wastes containing perc in covered containers with no leaks, draining cartridge filters in closed containers, and keeping machine doors shut when clothing is not being transferred.



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FACILITY ID NO. \_\_\_\_\_(FROM ADDRESS LABEL)

- Operate and maintain all dry cleaning equipment according to manufacturers' instructions.
7. The following records must be kept at your plant:
- A log of the results of the leak detection and repair program.
  - A log of the amount of perc purchased for the past 12 months, calculated each month.
  - The operation and maintenance manuals for all dry cleaning equipment at the plant.
8. If a room enclosure is installed on a transfer machine as stated in Question 4, the following information about the room enclosure must be attached to this report:
- Description of the materials that the room enclosure is constructed of to show that it is impermeable to perchloroethylene;
  - Explanation of how the room enclosure is operated to maintain a negative pressure at all time while the transfer machine is operating; and
  - Explanation of how the room enclosure exhausts into a carbon adsorber.
9. Print or type the name and title of the Responsible Official for the dry cleaning plant:

Name: \_\_\_\_\_ Title: \_\_\_\_\_

A Responsible Official can be:

- The president, vice president, secretary, or treasurer of the company that owns the dry cleaning plant;
- An owner of the dry cleaning plant;
- The manager of the dry cleaning plant;
- A government official, if the dry cleaning plant is owned by the Federal, State, City, or County government; or
- A ranking military officer, if the dry cleaning plant is located at a military base.

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FACILITY ID NO. \_\_\_\_\_(FROM ADDRESS LABEL)



WORKSHEET

A. To find out if control is required:

Check all boxes that apply:

- I reported less than 140 gallons in Question 3 (page 1).
- I reported less than 200 gallons in Question 3 (page 1) **AND** reported only transfer machines in Question 4 (page 1).

If you checked either box above and all your machines were installed before 12/9/91, you can STOP HERE. Write NO CONTROL REQUIRED in the shaded box on page 2 for each machine at your plant that was installed before 12/9/91. For those machines installed on or after 12/9/91, continue with the rest of the worksheet.

YOU ARE FINISHED WITH THE WORKSHEET. GO TO QUESTION 6 (page 2).

If you did not check a box above, go to Part B below.

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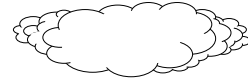
B. Control is required. Fill out Part B for EACH MACHINE at your plant.

Check the appropriate box:

- Machine was installed BEFORE 12/9/91.

If you checked this box, your required control is a refrigerated condenser or a carbon adsorber that was installed before 9/22/93. Write REFRIGERATED CONDENSER or CARBON ADSORBER in the shaded box below the machine on page 2.

Control must be installed by 9/22/96.



---

FACILITY ID NO. \_\_\_\_\_ (FROM ADDRESS LABEL)

- Machine was installed ON OR AFTER 9/22/93.

If you checked this box, your required control is a dry-to-dry machine with refrigerated condenser.

Write DRY-TO-DRY MACHINE WITH REFRIGERATED CONDENSER in the shaded box below the machine on page 2. NOTE: NO NEW OR USED TRANSFER MACHINES CAN BE INSTALLED AFTER 9/22/93.

Control must be installed when machine is installed.

- Machine was installed ON OR AFTER 12/9/91 AND BEFORE 9/22/93.

If you checked this box, your required control is a dry-to-dry machine with refrigerated condenser. Write DRY-TO-DRY MACHINE WITH REFRIGERATED CONDENSER in the shaded box below the machine on page 2.

If the machine you have is NOT a dry-to-dry machine with a refrigerated condenser, the machine must use either a refrigerated condenser or carbon adsorber from 9/22/93 until 9/22/96. On or after 9/22/96, any carbon adsorbers on dry-to-dry machines must be replaced with a refrigerated condenser. If the machine is a transfer machine with a carbon adsorber or a refrigerated condenser, you may keep this installation until 9/22/96. If you plan to keep a dry-to-dry machine with a carbon adsorber or a transfer machine with either a refrigerated condenser or carbon adsorber until 9/22/96, also write this information in the shaded box.

C. To find out if additional control is required:

Check all boxes that apply:

- I reported 1,800 gallons or less in Question 3 (page 1).
- I reported 2,100 gallons or less in Question 3 (page 1) **AND** I reported only dry-to-dry machines in Question 4 (page 1).

If you checked either box above, you can STOP HERE. No additional controls are required.

YOU ARE FINISHED WITH THE WORKSHEET. RETURN TO QUESTION 5 (page 2) and write in the dates the controls were or will be installed.

If you did not check a box above, go to Part D below.

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FACILITY ID NO. \_\_\_\_\_(FROM ADDRESS LABEL)



D. If additional control is required, fill out Part D for EACH machine at your plant:

Check a box below, if it applies:

- Machine is a dry-to-dry machine that was installed ON or AFTER 12/9/91.

If you checked this box, you are also required to install a supplemental carbon adsorber.

Write SUPPLEMENTAL CARBON ADSORBER in the shaded box below the machine on page 2.

- Machine is a transfer machine.

If you checked this box, you are also required to install a room enclosure. Write ROOM ENCLOSURE in the shaded box below the machine on page 2.

YOU ARE FINISHED WITH THE WORKSHEET. RETURN TO QUESTION 5 and write in the dates all controls were or will be installed (page 2).

---

FACILITY ID NO. \_\_\_\_\_(from address label)



COMPLIANCE REPORT FOR POLLUTION PREVENTION

1. Print or type the following for each separately located dry cleaning plant (facility). The owner of more than one plant must fill out a separate form for each plant.

Owner/Operator: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Plant Address:

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ County: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone Number: \_\_\_\_\_

2. Write in the total volume of perchloroethylene (perc) purchased for ALL of the machines at the dry cleaning plant over the past 12 months (based on actual purchase receipts):

\_\_\_\_\_ gallons

3. The following pollution prevention practices must be performed at your plant as of 12/20/93.

- Conduct a weekly leak detection and repair program to inspect all dry cleaning equipment for leaks that are obvious from sight, smell, or touch. NOTE: This program is required only every other week (biweekly) if you reported NO CONTROLS REQUIRED in the INITIAL NOTIFICATION REPORT.
- Repair leaks within 24 hours after they are found, or order repair parts within two working days after detecting a leak that needs repair parts. Install the repair parts by five days after they are received.
- Keep a log of the weekly (or biweekly) results of the leak detection and repair program.
- Follow good housekeeping practices, which include keeping all perc and wastes containing perc in covered containers with no leaks, draining cartridge filters in closed containers, and keeping machine doors shut when clothing is not being transferred.
- Operate and maintain all dry cleaning equipment according to manufacturers' instructions.



---

FACILITY ID NO. \_\_\_\_\_(from address label)



4. The following records must be kept at your plant:

- A log of the results of the leak detection and repair program;
- A log of the amount of perc purchased for the past 12 months, calculated each month; and
- The operation and maintenance manuals for all dry cleaning equipment at the plant.

5. Print or type the name and title of the Responsible Official for the dry cleaning plant:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

A Responsible Official can be:

- The president, vice president, secretary, or treasurer of the company that owns the dry cleaning plant;
- An owner of the dry cleaning plant;
- The manager of the dry cleaning plant;
- A government official, if the dry cleaning plant is owned by the Federal, State, City, or County government; or
- A ranking military officer, if the dry cleaning plant is located at a military base.

\_\_\_\_\_ FACILITY ID NO. \_\_\_\_\_ (from address label)



COMPLIANCE REPORT FOR CONTROL REQUIREMENTS

1. Print or type the following for each separately located dry cleaning plant (facility). The owner of more than one plant must fill out a separate form for each plant.

Owner/Operator: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Plant Address:

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ County: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone Number: \_\_\_\_\_

2. Write in the total volume of perchloroethylene (perc) purchased for the dry cleaning plant over the past 12 months (based on actual purchase receipts):

\_\_\_\_\_ gallons

FACILITY ID NO. \_\_\_\_\_ (from address label)



3. Fill out the table below for each machine at your plant. Use the WORKSHEET on pages 5 and 6 of the INITIAL NOTIFICATION REPORT to determine required controls. A copy of the INITIAL NOTIFICATION REPORT is attached.

	Machine Type (Dry-to-Dry or Transfer)	Date Machine Purchased	Required Control	Date Control Installed
1				
2				
3				
4				
5				
6				
7				

4. If you listed a required control in Question 3 (page 1) for any machine at your plant, you must monitor your control.

To find out what type of monitoring is required, check all boxes that apply:

- I use a refrigerated condenser on a dry-to-dry machine to meet the required control.

If you checked this box, you are required to perform a weekly monitoring test to show that the temperature on the outlet side of the refrigerated condenser is less than or equal to 45 degrees Fahrenheit.

- I use a refrigerated condenser on a transfer machine to meet the required control.

If you checked this box, you are required to perform a weekly monitoring test to show that the temperature on the outlet side of the refrigerated condenser on the transfer dryer is less than or equal to 45 degrees Fahrenheit AND that the difference between the inlet and the outlet temperature of the refrigerated condenser on the transfer washer is greater than or equal to 20 degrees Fahrenheit.

- I use a carbon adsorber on a dry-to-dry or a transfer machine to meet the required control, OR

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FACILITY ID NO. \_\_\_\_\_(from address label)



- I use a supplemental carbon adsorber on a dry-to-dry machine and the exhaust passes through the carbon adsorber IMMEDIATELY UPON door opening.

If you checked either of the two boxes above, you are required to perform a weekly monitoring test with a colorimetric detector tube to show that the concentration of perc in the exhaust from the carbon adsorber is not over 100 parts per million.

- I use a supplemental carbon adsorber on a dry-to-dry machine and the exhaust passes through the carbon adsorber BEFORE the machine door is opened.

If you checked this box, you are required to perform a weekly monitoring test with a colorimetric detector tube to show that the concentration of perc inside the dry cleaning machine drum at the end of the drying cycle is not over 300 parts per million.

- I use a room enclosure on a transfer machine.

If you checked this box, you are required to vent all air from inside the room enclosure through a carbon adsorber. The room enclosure must be constructed of materials impermeable to perc, must be designed and operated to maintain a negative pressure at all times while the transfer machine is operating, and must exhaust to a carbon adsorber.

---

FACILITY ID NO. \_\_\_\_\_(from address label)



5. Print or type the name and title of the Responsible Official for the dry cleaning facility:

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Examples of Responsible Officials:

- The president, vice president, secretary, or treasurer of the company that owns the dry cleaning facility;
- An owner of the dry cleaning facility;
- The manager of the dry cleaning facility;
- A government official, if the dry cleaning facility is owned by the Federal, State, City, or County government; or
- A ranking military officer, if the dry cleaning facility is located at a military base.