

Brief Summary
Amended EPA Regulations for Perchloroethylene Dry Cleaners
December 2008

Perchloroethylene, also known as perc, PCE, tetrachloroethene and tetrachloroethylene, is a solvent used in dry cleaning. It has been identified as a probable human carcinogen. Approximately 28,000 U.S. dry cleaners use perchloroethylene, which is the only air toxic emitted from the dry cleaning process.

The EPA originally published requirements to reduce air pollution from perchloroethylene dry cleaning facilities on September 22, 1993. Between 1993 and 2008 these rules have been reviewed, amended, corrected and updated multiple times. The 1996 amendments addressed compliance dates for particular parts of the initial rule; the 2006 amendments included a review of residual risk and implemented updated work practice and control technology measures; the 2008 amendments withdrew the 2006 amendments and updated the requirements. Overall, the amendments included a phase-out of perc use at dry cleaners located in residential buildings, along with requirements that would reduce perc emissions at other dry cleaners.

The rule affects three types of dry cleaners that use perc:

- Major Area Sources are industrial and commercial dry cleaners that emit more than 10 tons per year of perc to the atmosphere. For transfer machines only or both dry-to-dry and transfer machines, this is a facility with a capacity greater than or equal to 1800 gallons per year. For facilities with dry-to-dry machines only, the capacity limit is greater than 2100 gallons per year.
- Large Area Sources and smaller Free-Standing “typical” dry cleaners – often found in shopping centers. For dry-to-dry machines, this is a facility with a capacity greater than or equal to 140 gallons.
- Small Area Sources are small dry cleaners located in residential buildings. Facilities with dry-to-dry machines that have a capacity of less than 140 gallons are also considered small area sources.

The rule applies to all existing or new dry cleaners using perchloroethylene. All dry cleaning facilities constructed before July 27, 2006 must already be in compliance with these requirements, and are considered existing sources; all dry cleaning facilities constructed on or after July 27, 2006 must be in compliance immediately upon start-up, and are considered new sources.

This is a short list of things a dry cleaner must do to meet the updated rule requirements. For more details and assistance, please talk to your state or EPA regional office contact.¹

¹ Rule summary and contact information can be found at <http://www.epa.gov/ttn/atw/dryperc/dryclpg.html>

Equipment Requirements (vary by size and location of dry cleaner)

1. Major Source Perchloroethylene Dry Cleaners must:
 - Meet equipment standards for all systems, including: closed-loop systems (that don't vent to the outside air) with refrigerated condensers which recover perc solvent from vapors, and carbon adsorbers which trap perc emissions and prevent them from reaching the outside air.
 - Conduct enhanced leak detection and repair (LDAR) on a monthly basis, using a photoionization detector (PID) (or similar device) to detect perc leaks from equipment, repair such leaks, and maintain records. All detection devices must be able to detect a perc concentration of 25ppm by volume.

2. Freestanding and/ or Large Area Source Drycleaners must meet the following:
 - Existing typical area source dry cleaners must eliminate all machines requiring the movement of wet clothes from one machine to another for drying (called transfer machines).
 - All facilities must conduct enhanced LDAR using a halogenated hydrocarbon detector (HHD), a PID, or other approved technology to detect perc leaks weekly, repair such leaks, and maintain records. This is in addition to the required perceptible leak checks.
 - Facilities that commenced construction *before* December 21, 2005 must eliminate all transfer machines and replace them with an approved technology by July 27, 2008.
 - Facilities that commenced construction *after* December 21, 2005 must install carbon adsorbers in addition to refrigerated condensers on a closed-loop machine.

3. Small Area Source Drycleaners located in buildings with residents must meet all of the requirements in #2 (above) and also:
 - Existing co-residential dry cleaners must phase out perc machines by December 21, 2020.²
 - New dry cleaning machines installed in a building with a residence on or after December 21, 2005 but before July 13, 2006, must install equipment to aggressively control perc emissions (i.e., refrigerated condensers, carbon adsorbers, and vapor barriers) and must phase out perc machines by July 27, 2009.
 - New dry cleaning machines in residential buildings constructed on or after July 13, 2006 are not allowed to use perc; they must use an alternative cleaning method or locate in a non-residential building.

² For more information on perc alternative solvents, see the EPA's Design for the Environment (DfE) website <http://www.epa.gov/dfe/>

4. Other requirements are also in effect for all drycleaners:
 - When a refrigerated condenser is used to meet the required control, weekly monitoring is required. This can either be measurement of the refrigerator condenser outlet temperature (before the end of the cool-down or drying cycle) or by measuring the pressure during the drying phase to confirm the value is within the manufacturer's operating instructions.
 - No new transfer machines are permitted to be installed at any plant location.
 - Existing dry-to-dry transfer machines installed prior to December 9, 1991 and which are located at a source with a consumption of less than 140 gallons per twelve months (on a rolling average) are not subject to control requirements.

Reporting and Recordkeeping Requirements

1. Each owner or operator of a dry cleaning facility shall submit the following information as an initial notification:
 - Name and address of owner or operator.
 - Physical address of the dry cleaning facility and description of building in which they are located (with or without tenants or residents, leased space or owner occupants).
 - For major sources with transfer machines and for area sources located in residential buildings, a demonstration of room enclosure requirements.
 - Brief description of the type of each machine used at facility.
 - Yearly perchloroethylene consumption at facility or an estimation of the perchloroethylene consumption.
 - Description of control devices being used currently or planned for the future.
 - Demonstration of room enclosure requirements being met.
 - Whether or not they are in compliance with each applicable required standard.
 - Whether they are a major or area source.
2. Each owner or operator of a dry cleaning facility shall keep receipts and logs of the following information for a period of 5 years:
 - Volume of perchloroethylene purchased each month.
 - Calculation and result of the perchloroethylene consumption on a rolling twelve month basis.
 - Dates when system components are inspected for leaks and system components' names and locations.
 - Dates of repairs and records of orders for repair parts.

- Date and monitoring results for refrigerated condensers and carbon adsorber use.
3. Each owner or operator of a dry cleaning facility shall retain onsite the following information:
- Copy of the design specifications and operating manuals for each system.
 - Copy of the design specifications and operating manuals for each emission control device.
 - Dates when system components are inspected, and the name and location of the system components where leaks are found.
 - Dates of repair and records of written or verbal orders for needed repair parts.
4. An updated compliance certification is required when:
- A Source exceeds the applicable limit for which is was initially certified,
 - A dry cleaning machine is added or replaced,
 - The source is returning to compliance and/or,
 - There is a change in ownership.

This information must be submitted by the 30th day following any of the events above.

For more details and assistance, please talk to your state or EPA regional office contact. These web links to government contacts are a good place to start:

- http://www.epa.gov/ttn/atw/area/regional_contacts.pdf
- http://www.epa.gov/ttn/atw/area/table_state_contacts.doc