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Leak Repair

This page is a brief overview of the leak repair requirements for appliances containing class I or class II refrigerants (e.g. CFCs, HCFCs, or blends). Many other aspects of the requirements, particularly information on recordkeeping and reporting, are discussed in the general section 608 rule summary. The U.S. Environmental Protection Agency (EPA) and the Chemical Manufacturer's Association (CMA) have developed a guidance document titled Compliance Guidance For Industrial Process Refrigeration Leak Repair Regulations Under Section 608 of the Clean Air Act that provides far greater detail than this overview. The guidance document is intended for those persons who are responsible for complying with the requirements. The guidance should not be used to replace the actual regulations published in the Federal Register on August 8, 1995 (60 FR 40420); however, it can act as a supplement to explain the requirements. Reliance on this fact sheet alone will likely not result in compliance.

(12/15/10) Notice of Proposed Rulemaking: Protection of Stratospheric Ozone: Amendments to the Section 608 Leak Repair Requirements

Download the Self-Audit Checklist For Industrial Process Refrigeration Leak Repair Regulations Under Section 608 of the Clean Air Act. (28 pp, 68 kb, About PDF)

Introduction

The leak repair requirements, promulgated under Section 608 of the Clean Air Act, require that when an owner or operator of an appliance that normally contains a refrigerant charge of more than 50 pounds discovers that refrigerant is leaking at a rate that would exceed the applicable trigger rate during a 12-month period, the owner or operator must take corrective action.

Trigger Rates

For all appliances that have a refrigerant charge of more than 50 pounds, the following leak rates for a 12-month period are applicable:

Appliance Type	Trigger Leak Rate
Commercial refrigeration	35%
Industrial process refrigeration	35%
Comfort cooling	15%
All other appliances	15%

In general, owners or operators must either repair leaks within thirty days from the date the leak was discovered, or develop a dated retrofit/retirement plan within thirty days and complete actions under that plan within one year from the plan's date. However, for industrial process refrigeration equipment and some federally-owned chillers, additional time may be available.

Industrial process refrigeration is defined as complex customized appliances used in the chemical, pharmaceutical, petrochemical, and manufacturing industries. These appliances are directly linked to the industrial process. This sector also includes industrial ice machines, appliances used directly in the generation of electricity, and ice rinks. If at least 50 percent of an appliance's capacity is used in an industrial process refrigeration application, the appliance is considered industrial process refrigeration equipment and the trigger rate is 35 percent.

Industrial process refrigeration equipment and federally-owned chillers must conduct initial and follow-up verification tests at the conclusion of any repair efforts. These tests are essential to ensure that the repairs have been successful. In cases where an industrial process shutdown is required, a repair period of 120 days is substituted for the normal 30-day repair period. Any appliance that requires additional time may be subject to recordkeeping/reporting requirements.

When Additional Time is Necessary

Additional time is permitted for conducting leak repairs where the necessary repair parts are unavailable or if other applicable federal, state, or local regulations make a repair within 30/120 days impossible. If owners or operators choose to retrofit or retire appliances, a retrofit or retirement plan must be developed within 30 days of detecting a leak rate that exceeds the trigger rates. A copy of the plan must be kept on site and the original plan must be made available to EPA upon request. Activities under the plan must be completed within 12 months (from the date of the plan). If a request is made within 6 months from the expiration of the initial 30-day period, additional time beyond the 12-month period is available for owners or operators of industrial process refrigeration equipment and federally-owned chillers in the following cases: EPA will permit additional time to the extent reasonably necessary where a delay is caused by the requirements of other applicable federal, state, or local regulations; or where a suitable replacement refrigerant, in accordance with the regulations promulgated under Section 612, is not available; and EPA will permit one additional 12-month period where an appliance is custom-built and the supplier of the appliance or a critical component has quoted a delivery time of more than 30 weeks from when the order was placed, (assuming the order was placed in a timely manner). In some cases, EPA may provide additional time beyond this extra year

where a request is made by the end of the 9th month of the extra year.

Relief from Retrofit/Retirement

The owners or operators of industrial process refrigeration equipment or federally-owned chillers may be relieved from the retrofit or repair requirements if:

- second efforts to repair the same leaks that were subject to the first repair efforts are successful; or
- within 180 days of the failed follow-up verification test, the owners or operators determine the leak rate is below 35 percent. In this case, the owners or operators must notify EPA as to how this determination will be made, and must submit the information within 30 days of the failed verification test.

System Mothballing

For all appliances subject to the leak repair requirements, the timelines may be suspended if the appliance has undergone system mothballing. System mothballing means the intentional shutting down of a refrigeration appliance undertaken for an extended period of time where the refrigerant has been evacuated from the appliance or the affected isolated section of the appliance to at least atmospheric pressure. However, the timelines pick up again as soon as the system is brought back on-line.

For More Information

For further information concerning ozone depletion, copies of regulations, guidance documents, or fact sheets, please call the Stratospheric Ozone Hotline at 1 (800) 296-1996.

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