

Section 608 of the CAA

An Overview of the CFC Recycling and Emissions Reduction Rule

CAPCA Fall Meeting 2007

Myrtle Beach, SC

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Agenda

- Background
- Technicians
- Recovery Equipment
- Service Practices
- Leak Repair
- What Happens if EPA Shows Up at My Facility?
- What Happens if EPA Finds Problems?

Montreal Protocol

- International treaty designed to protect the ozone layer
- Participating countries agreed to phase out production of ozone-depleting substances (ODS)
 - Substances with highest ozone-depleting potential (CFC-12) phased out first
 - Complete phase out by 2030

Clean Air Act (CAA) – Title VI

- Phase out of ODS production and imports
- Reclamation and recycling of refrigerants
- Establishes work practices for maintenance, service, repair and disposal of refrigeration systems
- Mechanism for identifying and approving ODS alternatives
- Labeling of products containing ODS

CAA Section 608

- Section 608 of the CAA directs EPA to establish standards and requirements regarding the use and disposal of Class I and II substances (refrigerants) during the service, repair or disposal of appliances and industrial process refrigeration
- 40 CFR 82, Subpart F – Recycling and Emissions Reduction

Subpart F Applicability

- Any person servicing, maintaining or repairing appliances
- Persons disposing of appliances
- Appliance owners and operators
- Persons selling or offering for sale class I or class II refrigerants
- Persons purchasing class I or class II refrigerants

Applicability - Continued

- Refrigerant reclaimers
- Technician certifying programs
- Appliance manufacturers
- Recovery and recycle equipment manufacturers
- Recover and recycle equipment testing organizations

Prohibitions (40 CFR § 82.154)

- No person may knowingly vent or release refrigerants or substitutes
- De minimis releases associated with good faith recovery attempts are not prohibited
- Releases are de minimis if:
 - Required practices are followed
 - Approved recovery equipment is used
 - Technician is properly certified

Technician Certification

- Technicians must be certified by an EPA-approved technician certification program
 - Satisfactory score is required on an EPA-approved test
- Apprentices are exempt from certification
 - Must be continually supervised by a certified technician
 - Registered with U.S. Dept. of Labor
- List of EPA-approved programs can be found at:
<http://www.epa.gov/ozone/title6/608/technicians/608certs.html>

Who is considered a Technician?

- Any person who performs maintenance, service, or repair, that could be reasonably expected to release refrigerants from appliances into the atmosphere.
- Any person disposing of appliances (except small appliances, MVACs and MVAC-like appliances), that could be reasonably expected to release refrigerants from appliances into the atmosphere.

Technician - Continued

- Reasonably expected to release refrigerants from appliances if:
 - Activity violates the integrity of the refrigerant circuit
 - Attaching and detaching hoses and gauges
 - Adding or removing refrigerant
- Technician certification required for purchase of CFC or HCFC refrigerants

Technician Certification - Types

- Type I – Small appliances
- Type II – Medium, high or very-high pressure appliances
- Type III – Low pressure appliances
- Universal – All appliances

Recovery Equipment

- Technicians must use EPA-approved recovery and/or recycling equipment
- Recovery equipment must be tested by the Air-Conditioning and Refrigeration Institute (ARI) or Underwriters Laboratories (UL)
- Certified equipment will have a label reading:
"This equipment has been certified by ARI/UL to meet EPA's minimum requirements for recycling and/or recovery equipment intended for use with [appropriate category of appliance]."

Equipment Certification

- Technicians must submit a certification to EPA that certified recovery/recycle equipment has been acquired and the applicable requirements are being met
 - Equipment owner can certify for employees
- Certification is a signed statement
 - Required elements can be found at § 82.162
 - Sample form on EPA's website at:

<http://www.epa.gov/ozone/title6/608/recoveryform.pdf>

Service Practices

- Refrigerant in appliances opened for maintenance, service, repair or disposal must be evacuated prior to opening
- Generally, must achieve evacuation levels contained in table 1 at § 82.156
- Evacuation levels vary depending on the type of appliance and recovery equipment used

Service Practices – Continued

- Alternative evacuation levels if:
 - Appliance is not to be evacuated to the atmosphere and maintenance, service or repair is non-major
 - Leaks prevent the levels in table 1 from being attained or would lead to contamination of refrigerant
 - Small appliance, MVAC or MVAC-like appliance

Reclamation

- Recovered and/or recycled refrigerant can be returned to the same appliance or another appliance owned by the same person
- Refrigerant changing ownership must be reclaimed (i.e. cleaned to the ARI 700-1993 standard of purity)
- A list of EPA-certified reclaimers is at:
 - <http://www.epa.gov/ozone/title6/608/reclamation/reclist.html>

Leak Repair

- Applies to owners or operators of appliances normally containing > 50 lbs of refrigerant
- Appliances exceeding leak rate thresholds must be repaired within 30 days after discovery
- Repairs must bring the annual leak rate below the threshold

Leak Rate Thresholds

- Commercial Refrigeration – 35%
- Industrial Process Refrigeration – 35%
- Comfort Cooling – 15%
- All Other Appliances – 15%
- Thresholds represent % of total refrigerant charge that would be lost during a 12-month period if the leaks are not repaired

Leak Rate Calculation

➤ Method 1

$$\text{Leak rate (\%)} = \frac{\text{lbs of refrigerant added}}{\text{total charge (lbs)}} \times \frac{365 \text{ days}}{\# \text{ days since last addition}} \times 100\%$$

➤ Method 2

$$\text{Leak rate (\%)} = \frac{\text{lbs of refrigerant added over past 365 days}}{\text{total charge (lbs)}} \times 100\%$$

Time Extension - Repair

- More than 30 days for repair may be requested for:
 - Federally-owned commercial refrigeration
 - Federally-owned comfort cooling
 - Industrial process refrigeration (IPR)

- In order to qualify for a time extension:
 - Document all repair efforts
 - Notify EPA within 30 days with the reason timely repairs could not be made

- EPA determines if the extension is justified

Time Extension - Continued

- Federally-owned commercial and comfort cooling appliances also get more time if risk of radiological contamination exists
- IPR gets more time if:
 - Necessary parts are unavailable
 - Other federal, state or local regulations make timely repairs impossible
- 120-day repair period allowed if an industrial process shutdown is required

Verification Tests

- Applies to IPR and federally-owned
- Initial verification test must be completed:
 - At the conclusion of repairs
 - Prior to bringing appliance back on-line (prior to adding refrigerant)
- Follow-up verification test must be completed:
 - Within 30 days of completing repairs, or
 - Within 30 days of bringing back on-line, and
 - Under normal operating conditions

Failed Follow-up Verification

- Must retrofit or retire equipment
- IPR must notify EPA within 30 days of the failed test
- Retrofit or retirement can be avoided if:
 - 2nd repair efforts are completed within 30/120 days of 1st failed follow-up test
 - 2nd initial and follow-up tests are successful
 - EPA is notified within 30 days of successful follow-up test

Failed Follow-up - Continued

- IPR can also avoid retrofit or retirement if a demonstration is made within 180 days of the 1st failed follow-up test that the leak rate no longer exceeds the applicable threshold
- EPA must be notified within 30 days of making this determination

Retrofit/Retirement

- Leak repair is not required for leaking appliances that are retrofitted or retired
- One-year retrofit or retirement plan must be developed within 30 days of
 - Discovering a leak rate > threshold
 - Failed follow-up verification test
 - Making good faith efforts to repair leaks and deciding to instead retrofit or retire
- Retrofit or replacement appliances must use a refrigerant or substitute with a lower or equivalent ODP
- Copy of the retrofit/retirement plan must be kept onsite
- Plan must be dated, and all work completed within one year

Time Extension – Retrofit/Retire

- Schedule can be extended for IPR if delays are caused by:
 - Other federal, state or local regulations
 - Unavailability of a replacement refrigerant
- Must notify EPA within six months after initial 30-day period following discovery of leak rate exceedance

Time Extension – Continued

- One additional year is available for IPR equipment if:
 - New or retrofitted equipment is custom built
 - Delivery of appliance or critical components will be more than 30 weeks after the order
 - EPA is notified within six months after end of the 1st 30-day period following the leak rate exceedance
 - Records are maintained to verify criteria are met

- Requests for even more time must be made before the end of the 9th month of the extra year

System Mothballing

- System mothballing
 - Intentional shutting down of an appliance for an extended period of time
 - Refrigerant has been evacuated from the appliance or the affected isolated section
- All timelines associated with repairs, retrofits or retirements are temporarily suspended
- Clock starts if brought back on-line

Records/Reporting – > 50 lbs

- Technicians must provide documentation to owner/operator indicating the amount of refrigerant added during service
- Owners/operators must keep service records for:
 - Date and type of service
 - Quantity of refrigerant added
- Owners/operators doing their own service must also keep refrigerant purchase records
- Specific elements for notifications, extensions of time and retrofit plans are at § 82.166(n) & (o)

What Happens During an EPA Inspection?

- Opening Conference
 - Description of facility/process
 - Inventory of refrigeration and A/C equipment
 - Inventory of technicians/contractors
 - Inventory of recovery equipment
- Facility walkthrough
- Records review
 - Technician certifications
 - Service records
- Closing Conference
- Section 114 Information Request

What Happens if Violations are Discovered at My Facility?

- Notice of Violation
- Show cause conference
- Administrative or Judicial enforcement action
 - Corrective actions
 - Penalties
 - Supplemental Environmental Projects (SEPs)
- Self-reported violations handled under EPA's audit policy

Penalties

- Statutory maximum for civil penalties = \$32,500 per day per violation
- Follow CAA Stationary Source Civil Penalty Policy (SSCPP)
- SSCP Appendix X – Violations of Subpart F
 - Economic Benefit – delayed or avoided costs
 - Gravity – seriousness of the violation

SSCPP Appendix X – Gravity

- Three key factors
 - Potential for environmental harm
 - Extent of deviation from regulatory scheme
 - Size of violator
- Violation is rated for the first two factors: major, moderate or minor
- Matrix is used to determine penalty
 - Range is from \$750 (minor-minor) to \$15,000 (major-major)

Contact Information

Jason Dressler

Environmental Engineer

U.S. EPA Region 4

(404)562-9208

dressler.jason@epa.gov

www.epa.gov/ozone