Refrigerant Standards

Facilities Services Idaho State University - 2013

Mission:

The Facilities Services of Idaho State University is setting a policy in writing to comply with the U.S. Environmental Protection Agency's "No Vent Law", which prohibits venting of refrigerants into the atmosphere for any reason. Our mission is to reduce refrigerant emissions into the atmosphere to the lowest achievable and practical levels. We also intend to reuse recovered, recycled and reclaimed refrigerant to its maximum potential. It is our intention in good faith to develop maintenance and operational service practices that prevent refrigerant releases, and to recover or safely dispose of any substance using EPA regulations for proper refrigeration technology.

Responsibilities of the Maintenance and Operations Department, Facilities Services, Idaho State University

- Must comply with EPA Section 608 National Recycling and Emission Reduction Program regulations.
  - Reference the following EPA web pages:
    - [http://www.epa.gov/oar/caa/caa608.txt](http://www.epa.gov/oar/caa/caa608.txt)
- Leak repair and service provisions apply to connected-refrigerant-circuit with a circuit capacity of 50 pounds or more refrigerant (example included in appendix).
- Service technicians are responsible to maintain their EPA Approved Testing Certification.
- Service technicians must perform refrigerant service only on appliances with refrigerants, recovery equipment, recycling equipment, and refrigerant cylinders for which they are certified.
- When handling appliances with refrigerants, recovery equipment, recycling equipment, and refrigerant cylinders, service technicians must have their "certification cards" at all times.
- The Maintenance and Operations Department must provide its technicians with good working recovery and recycling equipment as a tool for recovering or recycling refrigerants.
- When opening, servicing, repairing, and disposing of appliances with refrigerants, service technicians must have at least one self-contained recovery equipment or recycling equipment at all times.
- All appliances with refrigerants, recovery equipment, recycling equipment, and refrigerant cylinders shall be clean and leak free.
- The service technician is responsible to maintain all appliances with refrigerants, recovery equipment, recycling equipment, and refrigerant cylinders in good working condition.
- If appliances with refrigerants, recovery equipment, recycling equipment, and refrigerant cylinders are not functioning or are not in good working condition or need to be repaired, it is the responsibility of the service technician to report it on an APPLIANCE INPUT FORM (sample copy of form attached) to the Maintenance and Operations Supervisor, and it is the sole responsibility of the service technician to repair the appliances with refrigerants, recovery equipment, recycling equipment, and refrigerant cylinders before performing any service on the same.
- Preventive maintenance shall be performed on the appliances with refrigerants, recovery equipment, recycling equipment, and refrigerant cylinders as required.
• Appliances with refrigerants, recovery equipment, recycling equipment, and refrigerator cylinders that fail due to lack of maintenance will be the responsibility of the service technician.
• Oils extracted during service should be marked and kept separate from other oils. Oils will be disposed of through the TSO office.
• Each refrigerant cylinder shall be marked for identification purposes (refer to subsection on labeling requirements).
• Refrigerants of different types shall not be mixed with one another.
• For disposal of appliances (even if the disposal is performed by non-Idaho State University entity or person), it is the responsibility of Idaho State University's maintenance and operations service technician to maintain a copy documenting disposal details on an APPLIANCE INPUT FORM; and, if refrigerant is recovered before final disposal of the appliance, such details must be documented on a SERVICE ORDER FORM.
• The Maintenance and Operations Supervisor will make an effort in good faith to provide an in-house training session to all new employees of the Maintenance and Operations Department who will perform refrigerant services.
• The Maintenance and Operations Supervisor will provide a copy of this policy to all technicians who will perform refrigerant services.

EPA Technician Certification:

As per the Clean Air Act Amendments Section 608, the four types of certifications for stationary equipment are as follows:

<table>
<thead>
<tr>
<th>Type of equipment serviced</th>
<th>Level of required certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small equipment (&lt;5lbs)</td>
<td>Type I</td>
</tr>
<tr>
<td>High and very-high pressure equipment</td>
<td>Type II</td>
</tr>
<tr>
<td>Low pressure equipment</td>
<td>Type III</td>
</tr>
<tr>
<td>All types</td>
<td>Type IV Universal*</td>
</tr>
</tbody>
</table>

* Type IV Universal does not include automobile air conditioning systems.

For more details on technician certification refer to the following EPA web pages:


Evacuation Requirements:

Service technicians must evacuate air-conditioning and refrigeration appliances as per EPA Section 608 Refrigerant Recycling Rule.

**Required Levels of Evacuation for Appliances** (Except for Small Appliances, MVACs, and MVAC-like Appliances)**
<table>
<thead>
<tr>
<th>Type of appliance serviced</th>
<th>Inches of mercury vacuum using equipment manufactured*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before Nov. 15, 1993</td>
</tr>
<tr>
<td>HCFC-22 appliance, or isolated component of such appliance, normally containing less than 200 pounds of refrigerant.</td>
<td>0</td>
</tr>
<tr>
<td>HCFC-22 appliance, or isolated component of such appliance, normally containing 200 pounds or more of refrigerant.</td>
<td>4</td>
</tr>
<tr>
<td>Other high-pressure appliance, or isolated component of such appliance, normally containing less than 200 pounds of refrigerant (CFC-12, -500, -502, -114).</td>
<td>4</td>
</tr>
<tr>
<td>Other high-pressure appliance, or isolated component of such appliance, normally containing 200 pounds or more of refrigerant (CFC-12, -500, -502, -114).</td>
<td>4</td>
</tr>
<tr>
<td>Very High Pressure Appliance (CFC-13, -503).</td>
<td>0</td>
</tr>
<tr>
<td>Low-Pressure Appliance (CFC-11, HCFC-123).</td>
<td>25</td>
</tr>
</tbody>
</table>

* Relative to standard atmospheric pressure of 29.9 inches of Hg.


For more details on evacuation requirements refer to the following EPA web pages: [http://www.epa.gov/ozone/title6/608/608fact.html#servreqs](http://www.epa.gov/ozone/title6/608/608fact.html#servreqs)

**Refrigerant Leaks:**

Pursuant to EPA Section 608, appliances with refrigerant charges of greater than 50 pounds are required to repair leaks in the equipment when those leaks together would result in the loss of more than a certain percentage of the appliance's charge over a year. For the commercial and industrial process refrigeration sectors, leaks must be repaired when the appliance leaks at a rate that would release 35 percent or more of the charge over a year. For all other sectors, including comfort cooling, leaks must be repaired when the appliance leaks at a rate that would release 15 percent or more of the charge over a year. Preventive maintenance shall be performed to test for leak integrity and a yearly refrigerant audit will be performed by M&O HVAC Team.

Leaks must be repaired within 30 days of discovery. If the Maintenance and Operations Department of the Facilities Services develops a one-year retrofit or retirement plan for the leaking unit, then the 30 days repair requirement is waived. Industrial process refrigeration appliances requiring an industrial process shutdown qualify for 120 days to repair a leak.

For more details on refrigerant leaks refer to the following EPA web pages:

Safe Disposal:

All appliances with refrigerants, recovery equipment, recycling equipment, and refrigerant cylinders must be disposed of as per the "Safe Disposal Requirements of EPA Section 608" (copy attached).

For more details on safe disposal refer to the following EPA web page:


Labeling:

As per Air Conditioning and Refrigeration Institute Guidelines, all refrigerant containers of class I or class II substances must be labeled:

```
“WARNING: Contains CFC/HCFC, a substance which harms public health and environment by destroying ozone in the upper atmosphere.”
```

Record keeping:

- **Facilities Services:**
  - Must comply with EPA Section 608 National Recycling and Emission Reduction Program regulations.
  - Must keep detailed technical information on every appliance which contains 50 or more pounds of refrigerants that is maintained and serviced by the Maintenance and Operations Department of the Facilities Services.
  - Must keep servicing records documenting the type of service, the date of service, and the quantity of refrigerant added. Every service performed must be accompanied by a SERVICE ORDER FORM which is completed, signed and dated by the technician. Such documents must be maintained for a minimum of three years from the date of service performed.
  - A Recycling Report must be filled out every time the recovery equipment or recycling equipment is used.
  - Must keep records of refrigerant purchased documenting the name of the seller, date of purchase, and the type and quantity of refrigerant purchased.
  - Must keep records of all materials sent for reclamation documenting the names and addresses of the reclamer, and the quantity of material sent to them for reclamation. Such information must be documented on an APPLIANCE INPUT FORM.
  - Must maintain documentation on leak repair and leak rate calculations. Leak repairs must be documented on the SERVICE ORDER FORM.
  - Must keep records of any initial or follow-up leak tests. Leak tests must be documented on the SERVICE ORDER FORM.
If an appliance is scheduled for retirement or replacement, such plans must indicate a reasonable source of funding for retirement or replacement.

Must certify to the local EPA Regional Office that the Facilities Services has acquired (built, bought, or leased) recovery or recycling equipment and that the Facilities Services is complying with the applicable EPA requirements. This certification should be sent on a completed, signed and dated EPA form "Refrigerant Recovery or Recycling Device Acquisition Certification Form", a copy of this form should be maintained in the Facilities Services records. Facilities Services does not have to send in a new form each time they add recycling or recovery equipment to the inventory.

Must keep a copy of each technician's proof of certification.

Attached forms must be used for record keeping purposes. All such forms, signed in original, must be submitted by the Maintenance and Operations Supervisor to the Facilities Services main office for data entry into the computerized refrigerant management system.

Records must be maintained for three years.

- **Technicians:**
  - Must comply with EPA Section 608 National Recycling and Emission Reduction Program regulations.
  - Must keep a copy of their proof of certification at the Facilities Services.
  - When servicing appliances that contain 50 or more pounds of refrigerant, technicians must provide the Maintenance and Operations Supervisor with a SERVICE ORDER FORM which is completed, signed and dated by the technician.
  - All information on the SERVICE ORDER FORM must be filled completely.

- **Service Contractors (contracted by the Facilities Services):**
  - Must comply with EPA Section 608 National Recycling and Emission Reduction Program regulations.
  - Must keep servicing records documenting the type of service, the date of service, and the quantity of refrigerant added or removed on every appliance that is maintained and serviced by the service contractor for the Facilities Services on the Idaho State University campus. Such documents must be maintained for a minimum of three years from the date of service performed.
  - Must submit to the Maintenance and Operations Supervisor an original SERVICE ORDER FORM completed, signed and dated by the technician performing the task for every service performed. Failure to submit this form will delay project completion and will delay project payment.
  - All information on the SERVICE ORDER FORM must be filled completely.
  - A Recycling Report must be filled out every time the recovery equipment or recycling equipment is used and must submit a copy to the Facilities Services.
  - Must certify to the local EPA Regional Office that the service contractor has acquired (built, bought, or leased) recovery or recycling equipment and that the service contractor is complying with the applicable EPA requirements. This certification should be sent on a completed, signed and dated EPA form "Refrigerant Recovery or Recycling Device Acquisition Certification Form." If recovery or recycling equipment will be used to perform service contract work on the Idaho State University campus, a copy of this form should be submitted to the Facilities Services records.
  - Service contractor technicians must submit a copy of their proof of refrigerant certification to the Facilities Services.
o All documents (except the SERVICE ORDER FORM) submitted by the service contractor must be dated and signed by a responsible officer and will be responsible and liable for the information provided.

o When performing service on an Idaho State University contract, service contractor technicians must have their "certification cards" at all times.

o When any service contractor technician arrives on campus to perform any type of service order work, they must sign in at the Facilities Services front desk.

o SERVICE ORDER FORM must be submitted within two working days of final completion. This pertains to all refrigerant projects on campus. We require that both under 50 lbs and over 50 lbs must be documented.

o Upon completion of any refrigerant service order work, the technician must give all completed documents to the Facilities Services Office in person.

o Payments on invoices received will be authorized by the Maintenance and Operations Supervisor only after the above documentation and the project has been completed and approved to his satisfaction.

- **Student Union Building #14, Idaho State University:**
  o Must comply with EPA Section 608 National Recycling and Emission Reduction Program regulations.
  o Must keep servicing records documenting the type of service, the date of service, and the quantity of refrigerant added on every appliance that contains 50 or more pounds of refrigerants and that is maintained and serviced by technicians employed by the Student Union Building or service contractor contracted by the Student Union Building. Every service performed must be accompanied by a completed, signed and dated Service Order Form. Such documents must be maintained for a minimum of three years from the date of service performed.
  o Must keep an original SERVICE ORDER FORM completed, signed and dated by the technician performing the task for every service performed.
  o All information on the SERVICE ORDER FORM must be filled completely.
  o A Recycling Report must be filled out every time the recovery equipment or recycling equipment is used and must submit a copy to the Facilities Services.
  o Must certify to the local EPA Regional Office that the Student Union Building has acquired (built, bought, or leased) recovery or recycling equipment and that the Student Union Building is complying with the applicable EPA requirements. This certification should be sent on a completed, signed and dated EPA form "Refrigerant Recovery or Recycling Device Acquisition Certification Form." If recovery or recycling equipment is used by the Student Union Building to perform work, then a copy of this form should be submitted to the Facilities Services records.
  o Must submit a copy of the technician's proof of certification to the Facilities Services.
  o The Student Union Building is responsible to collect all information from their service contractors, maintain a copy of such information, and submit a copy to the Facilities Services records.
  o All documents (except the SERVICE ORDER FORM) submitted by the Student Union Building must be dated and signed by a responsible officer and will be responsible and liable for the information provided.
  o Must maintain records for three years.

- **Stores, Idaho State University:**
  o Responsible for all refrigerant purchases.
  o Responsible for all refrigerant dispensing.