OZONE-DEPLETING SUBSTANCES POLICY

1. Purpose

- To ensure the recovery and recycling of refrigerants, which are known ozone-depleting substances (ODS), during servicing and disposal of refrigeration and air conditioning equipment. ODS includes chlorofluorocarbons (CFC), hydrochlorofluorocarbons (HCFC), and their blends.
- To comply with the applicable requirements of the Environmental Protection Agency’s (EPA) Clean Air Act.

2. Scope

This policy applies to:
- All maintenance staff in the Facilities Management Department, particularly the Heating, Ventilation, & Air Conditioning (HVAC) staff.
- Contractors and sub-contractors that may maintain applicable equipment.

3. Certification

- HVAC staff must possess the appropriate EPA Technician certification for proper refrigerant practices (e.g., Universal certification for servicing all types of equipment).
- Only EPA-certified refrigerant recovery machines must be used. The office of Environmental Health & Safety (EHS), Facilities Management, shall file this certification with EPA as needed.
- Contractors who service or repair air-conditioning or refrigeration equipment must provide proof of possessing appropriate EPA certifications for their technicians and recovery machines.

4. Refrigerant Sales Restrictions

- Only EPA-certified HVAC technicians may purchase ozone-depleting refrigerants such as R-22. Note: This does not apply to refrigerants contained in fully assembled refrigerant circuits such as household refrigerators and window/packaged air conditioning units.

5. Prohibition of Venting

- Intentional venting of ODS used as refrigerant is prohibited.
- Exemptions: small emissions from connecting/disconnecting/purging hoses during charging or servicing, “de minimus” releases during good faith attempts to recapture/recycle/safety dispose of refrigerant, or releases of ODS that are not used as refrigerants (e.g., purging or leak test gases).
6. Service Practice Requirements

- Evacuate air-conditioning and refrigeration equipment to established vacuum levels when opening the equipment for maintenance, service, repair, or disposal. Note: Connecting and disconnecting hoses and gauges to and from the appliance to measure pressures within the appliance and to add refrigerant to or recover refrigerant from the appliance shall not be considered "opening."
- The equipment must be evacuated to the levels specified in Appendix A.
- For small appliances such as household refrigerators, window air conditioners, and water coolers, 90% of the refrigerant must be recovered and when the compressor in the appliance is working.
- HVAC technicians must ensure that they are recovering the correct percentage of refrigerant using EPA-certified recovery equipment according to the manufacturer’s directions.
- The only acceptable instances where equipment evacuation do not need to be done to the extent specified above are: (1) if the maintenance, service, or repair does not involve removal of the appliance compressor, condenser, evaporator, or auxiliary heat exchanger coil, AND (2) the work is not followed by evacuation of the equipment to the environment. In these instances, high- or very-high pressure equipment must be evacuated to at least 0 psig before opening and low-pressure appliances pressurized to 0 psig before opening.

7. Refrigerant Leaks

- Refrigeration and air-conditioning equipment containing 50 pounds or more of refrigerant must have leaks repaired within 30 days of discovery.
- The trigger for repair requirements is the current leak rate projected over a consecutive 12-month period rather than the total quantity of refrigerant lost.
- HVAC staff must maintain records of refrigerant added to equipment and calculate the leak rate. If the leak rate is 15% or greater, the repair must be done within 30 days.

8. Recovery/Recycling

- Used refrigerant may be recovered and/or recycled and returned to the same or other equipment without restriction by HVAC staff or certified contractors, however, if the refrigerant changes ownership it must be reclaimed.

9. Reclamation

- Refrigerant must be reclaimed to the required purity only by a general reclaimer or the refrigerant manufacturer approved by Facilities Management.

10. Safe Disposal Requirements

- HVAC staff must evacuate and tag refrigeration and air-conditioning equipment using EPA certified equipment to the specified service levels prior to disposal.
The tag must be completed with the date of the evacuation and the technician’s signature.

- Facilities Management’s Supervisors are responsible for requesting evacuation of equipment by HVAC staff and making disposal arrangements after the equipment is evacuated and tagged.

11. Recordkeeping

- HVAC staff must maintain a service log for appliances containing 50 pounds or more of refrigerant. The log must record type of equipment, its location, manufacturer, model, date and type of service, and the quantity of refrigerant added.
- Contractors must also maintain records of the quantity of refrigerant added for appliances containing 50 pounds or more of refrigerant.
- HVAC technicians must submit copies of all certificates and service logs to the office of EHS.

Appendices

Appendix A – Required Levels of Refrigerant Evacuation

Reference

40 CFR Part 82
APPENDIX A

Required Levels of Refrigerant Evacuation

Levels of evacuation which must be achieved by recovery or recycling equipment intended for use with appliances manufactured on or after November 15, 1993

<table>
<thead>
<tr>
<th>Type of appliance with which recovery or recycling machine is intended to be used</th>
<th>Inches of Hg vacuum</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCFC-22 appliances, or isolated component of such appliances, normally containing less than 200 pounds of refrigerant</td>
<td>0</td>
</tr>
<tr>
<td>HCFC-22 appliances, or isolated component of such appliances, normally containing 200 pounds or more of refrigerant</td>
<td>10</td>
</tr>
<tr>
<td>Very high pressure appliances</td>
<td>0</td>
</tr>
<tr>
<td>Other high-pressure appliances, or isolated component of such appliances, normally containing less than 200 pounds of refrigerant</td>
<td>10</td>
</tr>
<tr>
<td>Other high-pressure appliances, or isolated component of such appliances, normally containing 200 pounds or more of refrigerant</td>
<td>15</td>
</tr>
<tr>
<td>Low pressure appliances</td>
<td>25</td>
</tr>
</tbody>
</table>

1 Except for small appliances, MVACs, and MVAC-like appliances

2 mm Hg absolute