REFRIGERANT MANAGEMENT POLICY
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Coordinating the plan across all company functions and departments is essential. EPA urges facilities to designate a refrigerant manager as a focal point for program activities. He should have the authority and budget to effect change; be current on the plant's HVAC/R operations, industry standards, and related regulations; and be able to communicate successfully with other departments.

The refrigerant manager should institute certain administrative controls. Required forms must be completed and sent to the EPA and any permits obtained. Policies for leak repair, CFC purchase and storage, and waste-stream characterization must be established. Companies must define their contaminated CFC and HCFC disposal processes, procedures for flushing and cleaning, used refrigerant quality policy, and existing equipment service specifications. Halon (extinguishing agent used primarily for computer room protection) and refrigerant bank policies should also be established.

Administrative controls should include keeping records. EPA has established recordkeeping requirements for equipment containing CFCs and HCFCs. HFCs are likely to be added soon. Major refrigerant users (equipment containing more than 50 lb) must be identified and records kept of how much refrigerant each piece holds and if it exceeds the allowable leak rate. If equipment charged with certain refrigerants is leaking at more than the allowable rate, it must be repaired within 30 days, or a written plan to replace the equipment within 1 year must be prepared.

EPA can require submission of detailed reports on refrigerant use, service, maintenance, and disposal. Fines for failing to comply with regulations can be as high as $25,000/day for each violation. Using a computer-based tracking and reporting program facilitates data handling and helps ensure compliance.

At the Mission City Center the Refrigerant Manager is the Chief Engineer.

**Basic Refrigerant Management Policy**

It is the policy of Mission City Center to comply with all regulations regarding refrigerants. All contractors performing work on any refrigeration systems on the property shall comply with this Basic Refrigerant Management Policy.

- Recovery and recycling equipment will be made available to service technicians in sufficient quantity to perform within EPA regulations.
- Responsibility for the care and maintenance of recovery and recycling equipment, including recordkeeping, rests with the service technician.
- Records will be kept to guarantee performance and ensure regulation compliance. There shall be no storage of tenant refrigerant on site that is not entirely contained in a refrigeration system. Included are inventory cards attached to new drums of refrigerant, use records for recycling and recovery equipment, and records on disposition of recovered or recycled refrigerant.
- Refrigerant cylinders stored on-site will not be filled to more than 80% of fluid capacity.
- Refrigerants shall not be mixed. A separate, clean, evacuated, labeled vessel will be provided for each refrigerant.
- Leak testing shall be performed periodically to ensure the integrity of all systems.
- Leaks will be repaired upon discovery. Property Management will be notified of any substantial venting or inability to repair leaks immediately.
- Refrigerants shall be recovered, reclaimed, or properly destroyed whenever removed from equipment.
- Before refrigerant is recovered, recycling or reclamation requirements shall be determined. Equipment will meet or exceed Air-Conditioning and Refrigeration Institute standards before being reused.
- Only approved containment vessels and equipment will be used. Dry nitrogen shall be used to break all vacuums created by the recovery process.

Policy

It is the Mission City Center’s Mission to contain all refrigerants and prevent them from entering the environment. It has been a felony to vent refrigerants into the atmosphere intentionally since July 1992. They must be recovered, recycled, or reclaimed using proper techniques. The Mission City Center’s refrigerant policy reflects intent to comply with this law.

Before any refrigerant management plan is formulated, a comprehensive systems assessment must be made. The assessment includes an equipment inventory; operating and maintenance practices; refrigerant recovery, recycling, and reclamation procedures; refrigerant containment; and chiller retrofit or replacement plans. Typically Mission City Center tenants will only be involved with the inventory of the equipment and repairs as they are needed. Repair technicians must contact the Chief Engineer or Property Management prior to conducting any work. This is due to the FLSS and the environmental concerns for all tenants. Any leaks in refrigerant systems must be reported to Property Management as soon as possible. The effected equipment must be removed/repaired and all equipment that contains refrigerant must be inventoried and MSDS documentation must be on file with the building.

The inventory is needed so that the building can assess current refrigerant requirements and potential impact of regulations and legislation. It should also help determine management
options and course of action and provide policy guidance and technical assistance. The plan also requires the development of budgets and replacement schedules, as well as a means to monitor the transition from CFCs to alternative refrigerants.

Every plan should provide for equipment containment, conversion, and replacement. For existing systems in good condition, continued use of CFCs may be a viable near-term solution. Expenditures must be made to ensure refrigerant containment and prudent procurement and inventory practices. Some containment options are shown in the table.

A written, monthly leak test schedule to ensure problems are discovered and repaired quickly helps minimize refrigerant loss. An accurate leak test log helps ensure compliance. Noting cost of technicians multiplied by the time spent helps provide accurate data.

Proper operation and maintenance practices improve overall chiller performance, simplify preventive maintenance, and facilitate training. They provide efficient, reliable air conditioning and reduce refrigerant loss. Guidance is available in manufacturers’ manuals, EPA regulations, and American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) guidelines.

Any program should make safety a priority. Common-sense handling of refrigerant equipment and use of proper procedures prevent injuries and mistakes. The refrigerant management plan should include a safety policy to minimize hazards. Potential hazards relate to the physical and chemical characteristics of the refrigerant (toxicity, flammability, pressure, and temperature parameters). OSHA and ASHRAE standards are helpful in formulating an emergency response plan.

**Tenant responsibility**

1. Mission City Center tenants should have their refrigerators, ice makers, water refrigeration systems or any other equipment in their suite which contains refrigerant (no matter how small) on inventory with the Property Management.

2. Tenants who remove equipment in their suite which contains refrigerant are asked to inform Property Management and have the inventory adjusted.

3. Tenants who hire contractors to repair machines that contain refrigerant must contact Property Management prior to the technician arriving on site. Technicians who arrive on site without authorization with refrigerant or oxygen-acetylene tanks will be turn away and denied access to the building. Technicians are required to inform the building of the amount and type of refrigerant used and the history of leaks in the system. MSDS and leak reporting is mandatory. Only technicians with the proper EPA certification will be allowed to work on refrigeration systems.
**Contractor responsibility**

1. Contractors who are contracted to repair refrigeration systems must contact the building engineer and/or Property Management for the necessary forms prior to conducting work.
2. Oxygen-acetylene tanks are allowed in the building only with authorization.
3. Refrigerant tanks, Refrigerant oil, brazing rod, flux and recovery tanks are allowed only with authorization and proper MSDS.
4. Systems who have developed leaks must be reported to the building immediately. When these systems are repaired the EPA Certification Number of the technician performing the work must be on the Leak Repair Form. See attached.
Sample Inventory Sheet:

Township Engineering Services

Refrigerant Inventory

<table>
<thead>
<tr>
<th>Date</th>
<th>Engineer Name</th>
<th>Type of Refrigerant</th>
<th>New Purchase</th>
<th>Quantity Used</th>
<th>Machine Used In</th>
<th>Location of Machine</th>
<th>Quantity Remaining</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/15/2015</td>
<td>K.O'Hair</td>
<td>R-134a</td>
<td>No</td>
<td>.25 lbs</td>
<td>Refrigerator</td>
<td>Suite 185</td>
<td>Machine Currently Charged</td>
</tr>
</tbody>
</table>
### Refrigerant Leak Reporting

**Building Name and Address:** Mission City Center 2350 Mission College Blvd., Santa Clara, CA 95054

<table>
<thead>
<tr>
<th>Date</th>
<th>Technician &amp; Co. Name</th>
<th>Type of Refrigerant &amp; Capacity of Unit</th>
<th>EPA Certification #</th>
<th>Quantity Used (lbs)</th>
<th>Machine Used In Suite</th>
<th>Location of Machine</th>
<th>Use of Equipment</th>
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