## SECTION 608 REGULATORY CHANGES

### OVERVIEW: Extends existing regulations for CFCs and HCFCs to HFCs and non-exempt substitutes

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>Who is Affected</th>
<th>When</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REFRIGERANT RECLAMATION</strong></td>
<td>*Technicians *Appliance owners/operators</td>
<td>1-1-2017</td>
<td>Used HFC, HCFC, and CFC refrigerants must be reclaimed by an EPA certified reclaimer before they can be used in a different owner’s system</td>
</tr>
<tr>
<td><strong>REFRIGERANT SALES RESTRICTION</strong></td>
<td>*All refrigerant purchasers *All refrigerant sellers</td>
<td>1-1-2018</td>
<td>Only certified technicians can purchase HFC refrigerants (already required for HCFC and CFC refrigerants); does not apply to EPA exempted substitutes</td>
</tr>
<tr>
<td><strong>TECHNICIAN CERTIFICATION</strong></td>
<td>*Persons who service, maintain repair or dispose of appliances (technicians)</td>
<td>1-1-2018</td>
<td>Technicians must be certified to open HFC appliances (already applicable to HCFC and CFC appliances); a technician must be certified to perform required leak inspections (a leak inspection is required if the system is known to be leaking above the allowable annual leak rate)</td>
</tr>
<tr>
<td><strong>SERVICE PRACTICES</strong></td>
<td>*Technicians *Appliance owners/operators</td>
<td>1-1-2018</td>
<td>HFC appliances must be evacuated to same evacuation levels that apply to HCFC and CFC before being opened for servicing</td>
</tr>
<tr>
<td></td>
<td>*Appliance owners/operators</td>
<td>1-1-2019</td>
<td>Lower allowable leak rates apply to all refrigerant appliances containing 50 or more lbs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1-2019</td>
<td>Leak inspection required for all refrigerant application that exceed the allowable leak rate (it is up to the technician to determine the appropriate method to detect leaks)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1-2019</td>
<td>Leak repair verification test required for all refrigerant appliances that exceed the allowable leak rate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1-2019</td>
<td>Must provide equipment owners with invoices that include the amount of refrigerant added</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1-2019</td>
<td>Must provide equipment owners with the results of leak inspection and verification tests</td>
</tr>
<tr>
<td></td>
<td>*Appliance owners/operators</td>
<td>1-1-2019</td>
<td>Must calculate leak rate each time refrigerant is added to an appliance containing 50 lbs. or more of refrigerant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1-2019</td>
<td>Must comply with lower allowable leak rates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1-2019</td>
<td>Must repair leaks in an affected appliance until the appliance is below the allowable leak rate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1-2019</td>
<td>Must have the leak(s) repaired within 30 days of determining that the leak rate exceeds the allowable rate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1-2019</td>
<td>Must notify EPA if more than 30 days are needed to complete a repair (e.g. replacement component will not be available within 30 days)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1-2019</td>
<td>Must develop a retrofit or replacement plan if allowable leak rate cannot be achieved within allotted time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1-2019</td>
<td>Must perform initial and follow up verification after a leak(s) has been repaired to confirm the repair(s) worked</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1-2019</td>
<td>Must retain records on amount of refrigerant added to an appliance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1-2019</td>
<td>Must retain records of results of leak inspection and verification tests</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1-2019</td>
<td>Must submit report to EPA no later than March 1 if an appliance leaks 125% or more of its full charge in one calendar year (chronically leaking appliance)</td>
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<tr>
<td></td>
<td></td>
<td>1-1-2019</td>
<td>Must include in report to EPA efforts to identify and repair chronically leaking appliance</td>
</tr>
<tr>
<td><strong>APPLIANCE DISPOSAL</strong></td>
<td>*Technicians</td>
<td>1-1-2018</td>
<td>HFC appliances destined for disposal must be properly evacuated prior to disposal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1-2019</td>
<td>Records must be maintained for disposed appliances that contained between 5 and 50 lbs. of refrigerant (this already applies to appliances that contained 50 lbs. or more)</td>
</tr>
</tbody>
</table>
## RECORDKEEPING—All records must be maintained for 3 years

<table>
<thead>
<tr>
<th>Record Type</th>
<th>What Must be Included</th>
<th>Who Must Retain the Records</th>
<th>Record Source</th>
</tr>
</thead>
</table>
| **APPLIANCE INFORMATION** | ● Documentation of each appliance’s full charge  
● Amount of refrigerant added to or removed from an appliance each time  
● Calculation of leak rate  
● When a leak inspection is performed  
● When verification is conducted  
● When service or maintenance is performed  
● Automatic leak detection system information if applicable | Owner/Operator  
Owner/Operator  
Owner/Operator  
Owner/Operator  
Owner/Operator  
Owner/Operator  
Owner/Operator  | Owner/Operator  
Technician  
Owner/Operator  
Technician  
Owner/Operator  
Technician  
Owner/Operator  
Technician  
Owner/Operator  
Technician  |
| **APPLIANCE DISPOSAL** | ● Name of company disposing of appliance  
● Location of appliance  
● Date of recovery and type of refrigerant recovered from appliance  
● Total quantity of refrigerant by type recovered from all disposed appliances/month  
● Quantity and type of recovered refrigerant sent for reclamation or destruction  
● Name of company recovered refrigerant was transferred to and date of transfer | Technician  
Technician  
Technician  
Technician  
Technician  
Technician  | Technician  
Technician  
Technician  
Technician  
Technician  
Technician  |
| **LEAK INSPECTION** (if applicable) | ● Date of leak inspection  
● Method(s) used to detect leaks  
● Calculation of leak rate  
● Location of each leak identified during inspection  
● Certification statement indicating that all visible and accessible parts were inspected | Owner/Operator  
Owner/Operator  
Owner/Operator  
Owner/Operator  
Owner/Operator  | Technician  
Technician  
Technician  
Technician  
Technician  |
| **VERIFICATION TEST** (if applicable) | ● Location of appliance  
● Date of verification test  
● Location of each repaired leak that was tested  
● Type of verification test used  
● Result of each verification test | Owner/Operator  
Owner/Operator  
Owner/Operator  
Owner/Operator  
Owner/Operator  | Technician  
Technician  
Technician  
Technician  
Technician  |

**TECHNICIANS ARE REQUIRED TO PROVIDE THE FOLLOWING INFORMATION TO APPLIANCE OWNERS/OPERATORS:**

For any Maintenance, Service Repair, or Disposal of an Appliance:

● Identity and location of appliance  
● Date and type of maintenance, etc., performed including: location of repair, leak inspections or verification tests, if applicable  
● Name and contact information of person performing maintenance, etc.  
● Amount of refrigerant added to or removed from an appliance
ALLOWABLE LEAK RATES – Only applies to appliances containing 50 lbs. or more of a refrigerant

<table>
<thead>
<tr>
<th>Appliance Type</th>
<th>Current Leak Rate</th>
<th>New Leak Rate Effective 1/1/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Process Refrigeration</td>
<td>35%</td>
<td>30%</td>
</tr>
<tr>
<td>Commercial Refrigeration</td>
<td>35%</td>
<td>20%</td>
</tr>
<tr>
<td>Comfort Cooling</td>
<td>15%</td>
<td>10%</td>
</tr>
</tbody>
</table>

LEAK DETECTION
- EPA does not require a specific method for detecting leaks
- Leak inspection must be conducted on all visible and accessible components of an appliance
- What is not considered visible or accessible:
  - Insulated components
  - Components iced over
  - Components that are underground, behind walls or otherwise inaccessible
  - Components that are located in a position that requires the technician to be elevated more than 6.5 feet
  - Components that are located on the equipment where it would be unsafe for the technician to inspect

EXCEPTION
- An equipment owner can choose to install an Automatic Leak Detection system that continuously monitors a whole appliance or portions of the appliance in lieu of performing required periodic inspections

LEAK REPAIR
- Required to repair leak(s) when allowable leak rate is exceeded
- Must demonstrate that the repair resulted in the appliance no longer exceeding the allowable leak rate
- Must perform initial verification test that leak is repaired before adding refrigerant back into the repaired appliance
- Must conduct follow-up verification test after the repaired appliance returns to normal operating performance and condition
- Must perform periodic leak inspections of visible and accessible components and parts:

<table>
<thead>
<tr>
<th>Appliance</th>
<th>Full Charge Size</th>
<th>Frequency of Leak Inspections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Refrigeration &amp; Industrial Process Refrigeration</td>
<td>≥ 500 lbs.</td>
<td>1x/3mos. until leak rate has not exceeded threshold for four consecutive quarters</td>
</tr>
<tr>
<td></td>
<td>50 to &lt;500 lbs.</td>
<td>1x/calendar year until leak rate has not exceeded threshold for one year</td>
</tr>
<tr>
<td>Comfort Cooling</td>
<td>≥ 50 lbs.</td>
<td>1x/calendar year until leak rate has not exceeded threshold for one year</td>
</tr>
</tbody>
</table>

- Leak Repairs and inspections must be documented with the following information:
  - date of leak inspection
  - method(s) used to detect leaks
  - location of each leak identified during inspection
  - certification statement indicating that all visible and accessible parts were inspected
• LEAK RATE CALCULATION

**Annualizing method**
EPA defines the annualizing leak rate calculation method as follows:

\[
\text{Leak Rate (\% per year)} = \frac{\text{pounds of refrigerant added}}{\text{pounds of refrigerant in full charge}} \times \frac{365 \text{ days/year}}{\text{shorter of \#days since refrigerant last added or 365 days}} \times 100\%
\]

**OR**

**Rolling Average method**
EPA defines the annualizing leak rate calculation method as follows:

\[
\text{Leak Rate (\% per year)} = \frac{\text{pounds of refrigerant added over past 365 days}^+}{\text{pounds of refrigerant in full charge}} \times 100\%
\]