



# **Updates to the Section 608 Refrigerant Management Program**

November 2, 2016

# Connecting to Webinar Audio



- ▶ Please dial in!
  - 1-866-299-3188 (706-758-1822 from outside the U.S.)
  - Code 202 343-9591#
  
- ▶ Dial-in listeners
  - Can more easily participate in the Q & A session
  - Have fewer technical complications
  
- ▶ Phones are muted (#6 to unmute)
  
- ▶ Webinar is being recorded

# Q & A after Presentation



Options for submitting and asking questions:

- ▶ Submit your questions using CHAT at anytime
  1. Type question into “Chat” box in bottom right corner
  2. Send question to host by selecting “Start a Private Chat,” host will ask question “anonymously” during Q&A
  
- ▶ Raise your hand during Q & A
  - Host will prompt you to unmute your line (#6) and ask your question verbally



Help

Attendees (3)

Start Private Chat

Hosts (1)

Tom Land

Presenters (0)

Participants (2)

Chat (Everyone)

The image shows a software interface for a meeting. At the top right, there is a "Help" button. Below it, a section titled "Attendees (3)" is visible. On the left side of this section, there is a "Start Private Chat" button. The "Attendees" section is organized into a list: "Hosts (1)" with a dropdown arrow, "Tom Land" (highlighted in black), "Presenters (0)" with a right-pointing arrow, and "Participants (2)" with a right-pointing arrow. Below the attendees list is a large grey area with diagonal lines, likely a placeholder for a video or content. At the bottom, there is a "Chat (Everyone)" section.



**Chat (Everyone)**

Presenter: Welcome to t

Presenter: We'll get start

Presenter: If you have questions feel free to rais

Presenter: The slides and audio recording from

available on the GreenChill LinkedIn site soon a

**Hosts**

Presenters

Start Chat With ▶

Text Size ▶

My Chat Color ▶

Help

Everyone Hosts

A green arrow points to the text input field at the bottom of the chat window.



**Chat (Everyone)**

Presenter: Welcome to t

Presenter: We'll get start

Presenter: If you have questions feel free to rais

Presenter: The slides and audio recording from  
available on the GreenChill LinkedIn site soon a

Start Chat With ▶

Text Size ▶

My Chat Color ▶

Help

Everyone Hosts

A green arrow points to the chat icon (two speech bubbles) located at the bottom right of the chat window.



EPA

Meeting



Share

 Raise Hand

 Agree

 Disagree

 Step Away

 Speak Louder

 Speak Softer

 Speed Up

 Slow Down

 Laughter

 Applause

 Clear Status

# Overview



- Overview of the National Refrigerant Management Program
- Highlight of some specific changes
- Outcomes of the rule
- Questions

**Disclaimer:** This presentation provides an overview for discussion purposes only. It does not supersede the Code of Federal Regulations or the new rule to be published in the Federal Register, which should be consulted for a full statement of the existing requirements and the regulatory revisions in the new rule.

# National Refrigerant Management Program



# National Refrigerant Management Program



## What refrigerants are affected?

- Ozone-depleting refrigerants (i.e., CFCs and HCFCs)
  - Currently subject to the Section 608(c) venting prohibition
  - Currently subject to the existing regulatory standards and requirements
- Substitute refrigerants (e.g., HFCs, HFOs, and PFCs)
  - Includes any substitute refrigerant not specifically exempted\*
  - Currently subject to the Section 608(c) venting prohibition
  - Will be subject to the regulatory standards and requirements starting 2017, 2018, or 2019
- Exempt substitute refrigerants (e.g., ammonia and CO<sub>2</sub>)
  - Not subject to the venting prohibition in specific end-uses
  - Not subject to the regulatory standards and requirements in those uses
  - May be subject to other requirements (e.g., OSHA)

\* While these slides highlight appliances containing HFCs, appliances containing other non-exempt substitute refrigerants, including HFOs and HFO blends, are subject to the same requirements.

# National Refrigerant Management Program



Exempt Refrigerants	End-Use and Application									
	Household Refrigerators	Retail refrigerator stand-alone	Vending	Very Low Temp Ref	Heat Transfer	Self-contained Commercial Ice Machines	Water Coolers	IPR/processing	Room AC-Self-contained	All uses
CO <sub>2</sub> , N <sub>2</sub> , H <sub>2</sub> O	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ammonia		✓						✓		
Hydrocarbons, Chlorine								✓		
Propane	✓	✓	✓	✓		✓	✓	✓	✓	
Isobutane	✓	✓	✓							
R-441A	✓	✓	✓						✓	
Ethane				✓	✓					

# Changes to Technician Certification



- You must be a Section 608 certified technician to open HFC appliances (Starting 1/1/18)
  - **EPA is not requiring recertification of current technicians at this time**
  - EPA is not changing the types of certifications
  - EPA is developing an updated test bank for certifying new technicians
- Certifying organizations must post a list of new technicians certified after 1/1/17 (Starting 1/1/18)
  - Individual technicians can opt-out
- EPA is removing the requirement that technicians certify that they own certified recovery equipment (Starting 1/1/17)

# Changes to Sales Restriction



- You must be a Section 608 certified technician to purchase HFC refrigerant (Starting 1/1/18)
- Refrigerant distributors may only sell HFC refrigerants to certified technicians and must maintain records for those sales (Starting 1/1/18)
- Small cans (under 2 pounds) of refrigerant for motor vehicle air conditioners (MVACs) are not subject to the sales restriction or recordkeeping requirement
  - Starting 1/1/18 small cans must be equipped with a self-sealing valve like those required in California
  - Existing inventory of small cans may continue to be sold until depleted
  - Reminder that importers of small cans of MVAC refrigerant are subject to the Greenhouse Gas Reporting Program

# Changes to Service Practices



- Technicians must use certified recovery and/or recycling equipment when opening an HFC appliance (Starting 1/1/18)
- Technicians must evacuate to the specified levels of vacuum when opening HFC appliances (Starting 1/1/18)
- Newly manufactured or imported recovery and/or recycling equipment models must be certified for use with HFCs (Starting 1/1/17)
- EPA is adopting UL flammability standard as part of the certification to ensure the safe use of recovery equipment designed for flammable refrigerants (Starting 1/1/17)

# Changes to Leak Repair



## Leak Rates and Duty to Repair

- Starting 1/1/2019, these modified leak repair requirements will apply to all refrigerants (excluding exempt refrigerants cited earlier)
  - The existing leak repair requirements will continue as is for ODS appliances until 1/1/19
- The leak rate must be calculated every time refrigerant is added to an appliance containing  $\geq 50$  lbs. of refrigerant
  - The repair requirements described on the following slides apply starting January 1, 2019, only if over the threshold
- Revised leak rate thresholds:
  - 30% for Industrial Process Refrigeration (IPR) (lowered from 35%)
  - 20% for commercial refrigeration (lowered from 35%)
  - 10% for comfort cooling (lowered from 15%)
- A certified technician must perform a leak inspection to identify the necessary repairs
- The repair must bring the appliance leak rate below the threshold
  - Must be demonstrated when calculating leak rate upon next refrigerant addition

# Changes to Leak Repair



## Verification tests

- Must demonstrate that leaks were successfully repaired
  - *Initial verification tests*- done before refrigerant is added back into the repaired appliance
  - *Follow-up verification tests*- done after the repaired appliance returns to normal operating characteristics and conditions
- Requirement extended to commercial refrigeration and comfort cooling (currently required only for IPR)
- If either the initial or follow-up verification test indicates that repairs were not successful, you may conduct as many additional repairs and verification tests as needed within the 30-day repair period

# Changes to Leak Repair



## Periodic Leak Inspections

- Required for appliances that had a duty to repair because they exceeded the threshold leak rate
- Must be conducted by a certified technician
- All visible and accessible components of an appliance must be inspected
- What is not considered visible or accessible:
  - Where components are insulated, under ice, underground, behind walls, or are otherwise inaccessible;
  - Where personnel must be elevated more than 2 meters above a support surface; or
  - Where components are unsafe to inspect
- Not required on appliances (or portions of appliances) that are continuously monitored by an automatic leak detection system

# Changes to Leak Repair



## Periodic Leak Inspections (continued)

Leak inspection must be performed according to the following schedule:

Equipment	Full Charge	Frequency of Leak Inspections
Commercial Refrigeration and IPR	≥ 500 pounds	Once every three months until the owner/operator can demonstrate that the leak rate has not exceeded the threshold for four quarters in a row.
	50 to 500 pounds	Once per calendar year until the owner/operator can demonstrate that the leak rate has not exceeded the threshold for one year.
Comfort Cooling	≥ 50 pounds	Once per calendar year until the owner/operator can demonstrate that the leak rate has not exceeded 10% for one year.

# Changes to Leak Repair



## Extensions to 30-Day Repair Schedule

- Will also be available to commercial refrigeration and comfort cooling appliances (currently only provided to IPR)
- One of the extensions is for when components that must be replaced are not available within the 30-day timeframe
- Portions of repairs that do not require additional time must be completed, verified, and documented within 30 days

## Extensions to 1-Year Retrofit/Retirement Schedule

- Generally only applicable to IPR
- Supermarkets may have 18 months to retire an appliance if the replacement appliance uses an exempt substitute (e.g., CO<sub>2</sub>)

# Changes to Leak Repair



## Chronically Leaking Appliances

- Owners/operators must submit reports to the EPA if any appliance leaks  $\geq 125\%$  or more of its full charge in one calendar year
- Reports must describe efforts to identify leaks and repair the appliance
- Reports must be submitted no later than March 1 of the following year

# Changes to Leak Repair



- Definition of Appliance:
  - Clarifies that each independent circuit in a system with multiple circuits is a separate appliance
- Leak rate calculations:
  - Provides that under the “Rolling Average Method” (formerly “Method 2”) in order to “close out” a leak event the owner or operator must repair all identified leaks and verify that the repairs have been successful.
- Recordkeeping:
  - Technicians must provide owners and operators with invoices (including amount of refrigerant added), and results of leak inspections and verification tests
  - Electronic recordkeeping encouraged

# Changes to Appliance Disposal



- Appliances with 5 pounds of refrigerant or less
  - Existing safe disposal requirements extended to HFC appliances (Starting 1/1/18)
- Appliances with between 5 and 50 pounds of refrigerant
  - New records for the disposal of appliances containing between 5 and 50 pounds of refrigerant (Starting 1/1/18)
    - Company name, location of the appliance, date of recovery, and type of refrigerant recovered for each appliance;
    - Amount of refrigerant (by type) recovered from all disposed appliances in each calendar month; and
    - Quantity of refrigerant (by type) transferred for reclamation and/or destruction, the person to whom it was transferred, and the date.
  - These records must be maintained by the technician and not the owner or operator of the appliance

# Changes to Reclamation



- EPA is establishing reclamation standards for HFCs and other refrigerants contained in AHRI Standard 700-2016 (Starting 1/1/17)
- Reclaimers must analyze each batch of reclaimed refrigerant (Starting 1/1/17)
- Annual reporting to EPA on amounts of refrigerant received and reclaimed includes HFCs (Starting 2018, for refrigerant received starting 1/1/17)

# Outcomes of 608 Update



- Consistent treatment of commonly used refrigerants (e.g., ODS, HFCs, blends)
- Incorporating best management practices to reduce leaks from large appliances
- Focus on ensuring repairs are effective
- Enhancing clarity of the rules to improve compliance
- Removing obsolete requirements

# Outcomes of 608 Update



- By promoting the proper handling of refrigerants, EPA anticipates:

Annual GHG Reduction (MMTCO <sub>2</sub> eq)	Annual ODS Reduction (ODP-weighted MT)	Annual Incremental Compliance Cost (millions)
7.3	114	\$24.5

- The annual GHG emissions reduction is equivalent to the annual GHG emissions of 1.5 million cars
- EPA estimates \$44 million in savings from reduced purchases of refrigerant

GHG: Greenhouse gas

MMTCO<sub>2</sub>eq: Million metric tons carbon dioxide equivalent

ODP: Ozone depletion potential

MT: Metric tons

# Flammable Refrigerants



- EPA has exempted certain hydrocarbon refrigerants from the venting prohibition when used in specific appliances and, as a consequence, the Section 608 requirements
  - These are new, self-contained, small appliances specifically designed to use hydrocarbon refrigerants
  - EPA does not anticipate that opening up such appliances for servicing or recharging will be common
  - Such appliances are identifiable by red tubing and other markings
- It is illegal to use hydrocarbon or other flammable refrigerants (such as R-22a) in existing HCFC/HFC appliances
  - This is true whether the refrigerant is sold to a certified technician or not
- Some flammable refrigerants are not exempt from the Section 608 requirements (such as HFC-32) and may only be purchased by a certified technician
  - Recovery and/or recycling equipment for use with such flammable refrigerants must be certified to ensure safety for those refrigerants



# Thank You Questions?

**For more information:**

<b>Jeremy Arling</b>	<b>Sara Kemme</b>
<a href="mailto:Arling.Jeremy@epa.gov">Arling.Jeremy@epa.gov</a>	<a href="mailto:Kemme.sara@epa.gov">Kemme.sara@epa.gov</a>
(202) 343-9055	(202) 566-0511

<http://go.usa.gov/xk4cR>