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Refrigerant Rule Revisions: Is Your Facility Prepared?

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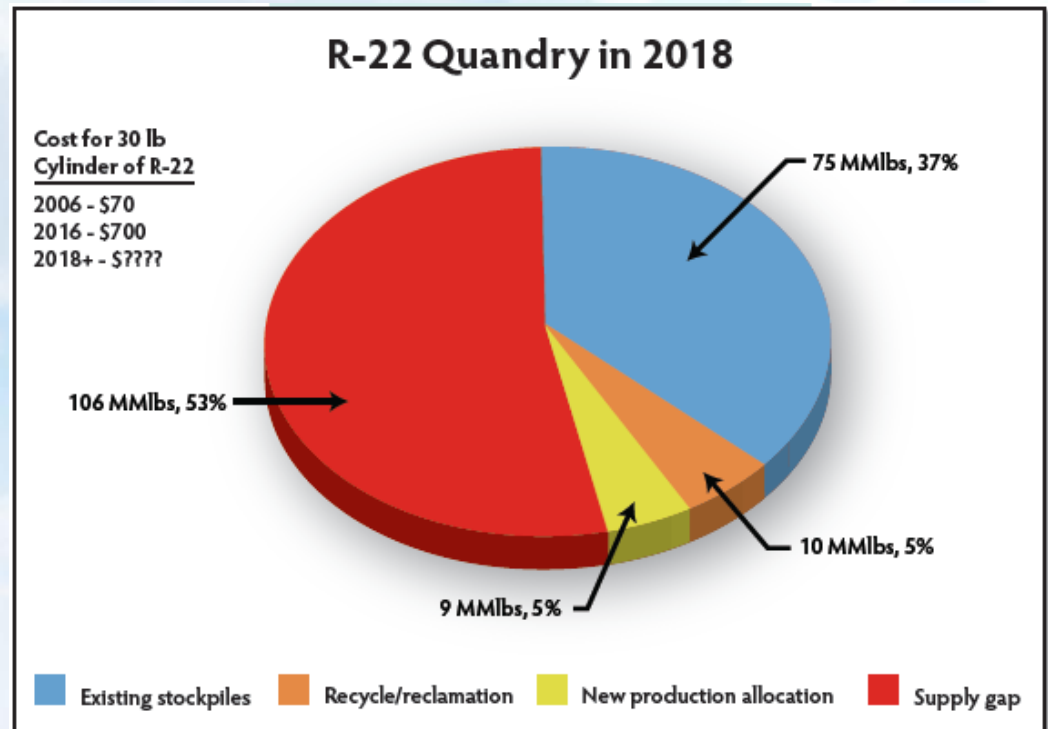
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Developments in Refrigerant Phase Out Schedules

HCFC Phase Out is Here

- > HCFC production phase out schedule
 - ❖ 2015 = 90%
 - ❖ 2020 = 99.5% overall and 100% for R-22 & R-142b
 - ❖ 2030 = 100%
- > R-22 quandary
 - ❖ EPA production allocations = 13 million lbs (2017), 9 million lbs (2018), & 4 million lbs (2019)
 - ❖ EPA estimates recycle/reclamation < 10 million lbs/year in 2016
 - ❖ Represent only a fraction of the ~200 million lb/year service need in the U.S.
- > Costs for R-22 have already risen 10x since 2006



HFCs are the New Target - Kigali Amendment

- > HFC phase down within Kigali Amendment to Montreal Protocol, 10/15/2016
 - ❖ 2019 - 10%
 - ❖ 2024 - 40%
 - ❖ 2029 - 70%
 - ❖ 2034 - 80%
 - ❖ 2036 - 85%
 - ❖ Relative to 2011-2013 HFC baseline + 15% of HCFC/CFC baseline
- > Trump Administration quiet on ratification

Developments in Required Work Practices when Servicing Refrigerant Containing Appliances

Extension to Non-ODS Substitutes

1/1/2017

- > Substitutes are defined as refrigerants, with the following subcategories:
 - ❖ Non-exempt substitutes - subject to all provisions of rule
 - ❖ Exempt substitutes - exempt from all provisions of rule **when used in approved applications**

Extension to Non-ODS Substitutes - Highlights

> Proposed to be rescinded

- ❖ Leak repair provisions as they apply to appliances with full charge \geq 50 lbs refrigerant, 1/1/2019

> Alternative proposal

- ❖ EPA requesting comment to rescind Subpart F extension to non-exempt substitutes in its entirety

Revised Small Appliance Disposal Requirements

- > Two options for final processors (e.g., scrap recyclers, landfills) when disposing of small (≤ 5 lb) appliances*
 - ❖ Option 1 - evacuate and recover refrigerant
 - ❖ Option 2 - verify that refrigerant has been evacuated previously via A) signed statements or B) contract
- > 2016 rule
 - ❖ Relocates these provisions from 82.156(f) & 82.166(i) to 82.155
 - ❖ Under Option 2, adds requirement to obtain signed statement when all refrigerant in an appliance has “leaked out” prior to delivery due to unavoidable occurrences
 - ❖ Effective date = 1/1/2017 for ODS-containing refrigerants **and 1/1/2018 for non-exempt substitutes**

*Also applies to disposal of MVACs and MVAC-like appliances

New Medium Appliance Disposal Requirements, 1/1/2018

- > 2016 rule adds explicit technician recordkeeping requirements for disposal of appliances with full charge > 5 lbs and < 50 lbs
 - ❖ Company name
 - ❖ Location of the appliance
 - ❖ Date of recovery
 - ❖ Type of refrigerant recovered for each appliance
 - ❖ The quantity of refrigerant, by type, recovered from all disposed appliances in each calendar month
 - ❖ The quantity of refrigerant, by type, transferred for reclamation and/or destruction
 - ❖ The person to whom it was transferred
 - ❖ The date of transfer
- > Owners/operators only required to maintain these records if directly employ technicians

Revisions to Leak Repair Provisions for ≥ 50 lb Units - Highlights, 1/1/2019

- > Extends applicability to appliances that contain non-exempt substitutes (e.g., HFCs)
- > Lowers allowable leak (or repair “trigger”) rates
 - ❖ Comfort cooling & other units - 15% to 10%
 - ❖ Commercial refrigeration - 35% to 20%
 - ❖ Industrial process refrigeration - 35% to 30%

Revisions to Leak Repair Provisions for ≥ 50 lb Units - Highlights, 1/1/2019

- > Initial and follow-up verification testing
 - ❖ Now required for all appliance types
 - ❖ Shortens window for performing follow-up verification test from 30 days to 10 days
- > Establishes leak inspection requirements if exceed allowable leak rates

Revisions to Leak Repair Provisions for ≥ 50 lb Units - Highlights, 1/1/2019

- > Added chronic leaker provision - reporting required for appliances ≥ 50 lbs that leak more than 125% of their full charge in calendar year
 - ❖ Different calculation than leak repair!
 - ❖ Calculation = amount added / full charge (do not use standard leak rate calculation methods for this purpose)
 - ❖ Due 3/1 of following year

Revisions to Leak Repair Provisions for ≥ 50 lb Units - Recordkeeping [82.157(l)], 1/1/2019

- > Expanded servicing records (ID/location of appliance, date of service, parts of appliance serviced and type of service made to each part, name of person performing the service, amount and type of refrigerant added to or removed, full charge, leak rate, leak rate method used)
- > Expanded full charge records (full charge, method used, revisions, and date of revisions) for all full charge methods
- > Expanded verification test records (location of repairs tested, date, type, and results)
- > Adds explicit records for mothballing (date and return to service)
- > Adds explicit records for seasonal variance (dates of removal and corresponding addition)
- > Adds records of leak inspections (date, method used, leak locations, and certification that all visible parts inspected)
- > Adds records for automatic leak detection systems (installation, annual audit and calibration, and date/location of leaks detected)
- > Purged refrigerant records (when exempting from leak rate calculations)
- > Copies of reports and requests submitted to EPA
- > Copies of retrofit/retirement plans

Subpart F Matrix by Appliance & Refrigerant Type (final rule, not including proposed changes)

Category	Venting Prohibition	Sales Restrictions	Evacuation Req's	Technician Certs	Disposal Req's	Leak Repair Provisions
Appliances w/ Exempt Substitutes	No	No	No	No	No	No
Small Appliances (≤ 5 lbs ODS or Non-Exempt Substitute)	Yes	Yes <u>Applies to Non-Exempt Subs on:</u> 1/1/17 – Used Ref 1/1/17 – Appliances 1/1/18 – New Ref	Yes (specific) <u>Applies to Non-Exempt Subs on:</u> 1/1/18	Yes <u>Applies to Non-Exempt Subs on:</u> 1/1/18	Yes (specific) <u>“Leaked out” Records Req'd on:</u> 1/1/17 – ODS 1/1/18 – Non-Exempt Subs	No
Medium Appliances (> 5 lbs & < 50 lbs ODS or Non-Exempt Substitute)	Yes	Yes <u>Applies to Non-Exempt Subs on:</u> 1/1/17 – Used Ref 1/1/17 – Appliances 1/1/18 – New Ref	Yes <u>Applies to Non-Exempt Subs on:</u> 1/1/18	Yes <u>Applies to Non-Exempt Subs on:</u> 1/1/18	Yes <u>Explicit Records Req'd on:</u> 1/1/18 – ODS 1/1/18 – Non-Exempt Subs	No
Large Appliances (≥ 50 lbs ODS or Non-Exempt Substitute)	Yes	Yes <u>Applies to Non-Exempt Subs on:</u> 1/1/17 – Used Ref 1/1/17 – Appliances 1/1/18 – New Ref	Yes <u>Applies to Non-Exempt Subs on:</u> 1/1/18	Yes <u>Applies to Non-Exempt Subs on:</u> 1/1/18	Yes <u>Applies to Non-Exempt Subs on:</u> 1/1/18	Yes <u>82.156(i) Applies thru:</u> 12/31/18 – ODS <u>82.157 Applies starting:</u> 1/1/19 – ODS 1/1/19 – Non-Exempt Subs

Tips and Tools for Compliance

How Should Facilities Prepare for Impending Refrigerant Phase Outs?

- > Facility managers must develop inventory of appliances (age, size, refrigerant type) to quantify exposure to expected rise in refrigerant costs
- > Watch for availability of next generation refrigerants (e.g., HCs, HFOs, HFO/HFC blends)
 - ❖ Obtain input from appliance manufacturers and HVAC/R contractors
- > Analyze new AC/R unit installations and retrofits based on available cost data and unit lifetimes
 - ❖ If R-410A is facing an impending phase down, does it make sense to switch your R-22 unit to R-410A?

How Should Facilities Prepare for Subpart F Revisions?

- > Use EPA required work practices previously reserved for ODS-containing refrigerants (e.g., R-12, R-22) on non-ODS substitutes (e.g., R-134a, R-410A)
 - ❖ Certified technicians
 - ❖ Certified recovery/recycling equipment
 - ❖ Required refrigerant evacuation levels
- > Implement changes to appliance disposal recordkeeping system
- > Prepare for new leak repair provisions on ≥ 50 lb units
 - ❖ Conduct initial and follow-up verification testing for all leaks
 - ❖ Implement system to maintain new records
 - ❖ Test drive in 2018

Refrigerant Tracking Tools



- > Off-the-shelf software options
 - ❖ TrakRef v2 (TrakRef)
 - ◆ Only proven option for mobile access
 - ❖ Refrigerant Compliance Manager (Sphera)
 - ❖ Verisae vx Sustain (Accruent)
 - ❖ ODS Sentinel (GenSuite)
 - ❖ Refrigerant Management Module (Intelex)
- > Custom option
 - ❖ Trinity Refrigerant Management Tool

Questions?

