

## A&WMA SWOC Fall Meeting: Refrigerant Rule Updates

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## Refrigerant Servicing Rule Revisions

- > Rule represents overhaul of 40 CFR 82, Subpart F
- > Finalized on 11/18/2016 (81 FR 82272)
- > Includes 3 primary categories of changes
  1. Extension to non-ODS containing substitutes
  2. Revised appliance disposal requirements
  3. Revised leak repair provisions for appliances with full charge  $\geq$  50 lbs
- > **Staggered compliance dates of 1/1/2017, 1/1/2018, & 1/1/2019**

## Category 1: 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, including sales restrictions, evacuation, recovery/recycling equipment, technician certification, leak repair, and reclamation provisions
  - ❖ Exempt substitutes - exempt from all provisions of rule when used in approved applications



### 82.154(a) Venting Prohibition.

#### 82.154(a)(1)

No person maintaining, servicing, repairing, or disposing of an appliance or industrial process refrigeration may knowingly vent or otherwise release into the environment any refrigerant from such appliances. Notwithstanding any other provision of this subpart, the following substitutes in the following end-uses are exempt from this prohibition and from the requirements of this subpart:

#### 82.154(a)(1)(i)

Carbon dioxide in any application;

#### 82.154(a)(1)(ii)

Nitrogen in any application;

#### 82.154(a)(1)(iii)

Water in any application;

#### 82.154(a)(1)(iv)

Ammonia in commercial or industrial process refrigeration or in absorption units;

#### 82.154(a)(1)(v)

Chlorine in industrial process refrigeration (processing of chlorine and chlorine compounds);

#### 82.154(a)(1)(vi)

Hydrocarbons in industrial process refrigeration (processing of hydrocarbons);

#### 82.154(a)(1)(vii)

Ethane (R-170) in very low temperature refrigeration equipment and equipment for non-mechanical heat transfer;

#### 82.154(a)(1)(viii)

Propane (R-290) in retail food refrigerators and freezers (stand-alone units only); household refrigerators, freezers, and combination refrigerators and freezers; self-contained room air conditioners for residential and light commercial air-conditioning and heat pumps; vending machines; and effective January 3, 2017, self-contained commercial ice machines, very low temperature refrigeration equipment, and water coolers;

#### 82.154(a)(1)(ix)

Isobutane (R-600a) in retail food refrigerators and freezers (stand-alone units only); household refrigerators, freezers, and combination refrigerators and freezers; and vending machines;

#### 82.154(a)(1)(x)

R-441A in retail food refrigerators and freezers (stand-alone units only); household refrigerators, freezers, and combination refrigerators and freezers; self-contained room air conditioners for residential and light commercial air-conditioning; heat pumps; and vending machines.



## Extension to Non-ODS Substitutes - Highlights

- > Newly manufactured recovery/recycling equipment must be certified, **1/1/2017** (82.158)
- > Restriction on sale of refrigerant, **1/1/2017 & 1/1/2018** [82.154(c)-(d)]
- > Technicians must be certified, **1/1/2018** [82.161(a)]
- > Evacuation requirements for disposal or opening of appliances, **1/1/2018** [82.155 & 82.156(a)-(d)]
- > Leak repair provisions as they apply to appliances with full charge  $\geq$  50 lbs refrigerant, **1/1/2019** (82.157)



## Category 2: Revised Small Appliance Disposal Requirements

- > Two options for final processors (e.g., scrap recyclers, landfills) when disposing of small ( $\leq$  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 [82.156(a)(3)]
  - ❖ 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

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## Category 3: 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)
  - ❖ Expecting proposed rule to revisit this portion of the new rule
- > Lowers allowable leak (or repair “trigger”) rates [82.157(c)(2)]
  - ❖ Comfort cooling & other units - 15% to 10%
  - ❖ Commercial refrigeration - 35% to 20%
  - ❖ Industrial process refrigeration - 35% to 30%

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## 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**, including comfort cooling and commercial refrigeration (was only req'd for industrial units previously)
  - ❖ **Shortens window** for performing follow-up verification test from 30 days to 10 days of initial verification test or of the appliance achieving normal operating characteristics and conditions
- > Standard list of extensions to 30-day repair window for **all appliance types**
  - ❖ Mothballing, industrial process shutdown (IPS) required, necessary parts unavailable, radiological contamination issues, & other rules make repair within window impossible



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

- > Establishes leak inspection requirements if exceed allowable leak rates [82.157(g)]
  - ❖ All units ≥ 50 lbs - once per calendar year, until 1 year w/ no leaks above allowable leak rate
  - ❖ Commercial/industrial process refrigeration ≥ 500 lbs - quarterly, until 4 consecutive quarters w/ no leaks above allowable leak rate
  - ❖ Must be performed by certified technicians
  - ❖ Not required if equipped with automatic leak detection system



## Revisions to Leak Repair Provisions for $\geq 50$ lb Units - Highlights, 1/1/2019

- > Reporting required for appliances  $\geq 50$  lbs that leak more than 125% of their full charge in calendar year [82.157(j)]
  - ❖ “Chronic leaker” provision
  - ❖ Calculation = amount added / full charge (do not use standard leak rate calculation methods for this purpose)
  - ❖ Due 3/1 of following year

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## Revisions to Leak Repair Provisions for $\geq 50$ 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

**Red = New**

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## Revisions to Leak Repair Provisions for ≥ 50 lb Units - Clarifies Who is Responsible for Records [82.157(l)(2)], 1/1/2019

(2) Owners or operators must maintain a record including the following information for each time an appliance with a full charge of 50 or more pounds is maintained, serviced, repaired, or disposed of, when applicable. If the maintenance, service, repair, or disposal is done by someone other than the owner or operator, that person must provide a record containing the following information, with the exception of (l)(2)(vii) and (viii) of this section, to the owner or operator:

- > Similar language in leak inspection (l)(3) and verification testing (l)(5) recordkeeping provisions

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## Revisions to Leak Repair Provisions - Notifications & Reporting

- > Eliminates one-time notification of acquisition of certified recovery/recycling equipment (effective date = 1/1/2017)
- > Requires notifications/reports to be submitted electronically to [608reports@epa.gov](mailto:608reports@epa.gov) [82.157(m)] (effective date = 1/1/2019)
  - ❖ E.g., repair window extension requests, chronic leaker reports
  - ❖ Can use now per EPA

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## 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  $\geq 50$  lb units
  - ❖ Conduct initial and follow-up verification testing for all leaks
  - ❖ Implement system to maintain new records
  - ❖ Test drive in 2018



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### EPA's Recent NSR Reform Activity

A&WMA Fall Meeting  
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## EPA's New Source Review (NSR) Reforms

- > EPA recently issued guidance on various aspects of NSR policy
- > Specific NSR reform topics include:
  1. Actual-to-projected actual applicability test
  2. Project emissions accounting
  3. Source aggregation
- > EPA has indicated that guidance is forthcoming on several additional topics



## Actual-to-Projected-Actual Applicability Test (1/3)

- > *New Source Review Preconstruction Permitting Requirements: Enforceability and Use of the Actual-to-Projected-Actual Applicability Test in Determining Major Modification Applicability*
  - ❖ Signed by Scott Pruitt December 7, 2017
  - ❖ [https://www.epa.gov/sites/production/files/2017-12/documents/policy\\_memo.12.7.17.pdf](https://www.epa.gov/sites/production/files/2017-12/documents/policy_memo.12.7.17.pdf)
- > Relevant for projects documenting PSD inapplicability using actual-to-projected actual emissions evaluation



## Actual-to-Projected-Actual Applicability Test (2/3)

- > If actual-to-projected actual emissions test used to document PSD inapplicability:
  - ❖ After initial permitting, PSD applicability of project is governed by actual post-project emissions
  - ❖ Exceeding actual emissions projection for a source doesn't mean that PSD retroactively applies to entire project (if actual emissions < SER)
  - ❖ EPA does not intend to second guess the facility's emissions projections
- > Guidance acknowledges that facility must exercise judgement to determine whether actual emissions are subject to PSD applicability test or “excludable”



## Actual-to-Projected-Actual Applicability Test (3/3)

- > Bottom Line:
  - ❖ EPA not likely to pursue NSR enforcement for inaccurate pre-project actual emissions projections
  - ❖ Enforcement only likely if post-project actual emissions greater than significance thresholds
- > Caveats:
  - ❖ Memo not legally enforceable
  - ❖ For EPA-approved NSR programs (like Ohio), local regulations incorporated into SIP represent federal law
    - ◆ Local agency may scrutinize “excludable” emissions more than indicated by EPA memo
  - ❖ If BACT determination or modeling based on projected emissions, guidance not likely to change enforceability of those provisions



## Project Emissions Accounting (1/3)

- > *Project Emissions Accounting Under the New Source Review Preconstruction Permitting Program*
  - ❖ Signed by Scott Pruitt March 13, 2018
  - ❖ [https://www.epa.gov/sites/production/files/2018-03/documents/pea\\_nsr\\_memo\\_03-13-2018.pdf](https://www.epa.gov/sites/production/files/2018-03/documents/pea_nsr_memo_03-13-2018.pdf)
  - ❖ Published in FR on March 30, 2018 (83 FR 13745)
  - ❖ Subsequent proposal will codify memo interpretations (expected Fall 2018)
- > Relevant for projects that cause both emissions increases and decreases (e.g., replacement of boiler)



## Project Emissions Accounting (2/3)

- > NSR applicability analysis:
  - ❖ Step 1 - Emissions from project. If SER exceed, go to Step 2.
  - ❖ Step 2 - Contemporaneous period netting (5-year emissions increases and decreases).
- > Memo documents EPA's new interpretation: Current regulations allow both increases and decreases to be considered in Step 1 of NSR applicability evaluation
  - ❖ Based on plain language of CAA, which indicates that Congress intended to apply NSR to changes that increase actual emissions (where actual emissions increase would be a function of both project-related increases AND decreases)
- > Previous EPA guidance indicated that any decreases, even those related to project (i.e., decommissioning unit), must only be considered in Step 2 netting evaluation



## Project Emissions Accounting (3/3)

- > Bottom Line:
  - ❖ Decreases may now be considered in Step 1 of NSR applicability evaluation
    - ◆ Must be causal link between physical/operational change and change in emissions
  - ❖ Facility responsible for defining project scope
    - ◆ May not seek to circumvent NSR
  - ❖ Decreases need not be creditable or enforceable to be considered in Step 1
    - ◆ However, decreases considered in Step 2 must be both
- > Caveats:
  - ❖ Local agencies may take more stringent interpretation than federal guidance
  - ❖ Permit engineers may not be receptive to idea of accounting for decreases without method of enforceability



## Source Aggregation

- > Single-source determination for NSR/Title V three-factor test:
  1. Belong to same industrial grouping
  2. Located on contiguous or adjacent properties
  3. Under common control
- > “Common sense notion of a plant”



## Source Aggregation - Common Control (1/3)

- > Letter from William Wehrum (EPA) to Patrick McDonnell (Pennsylvania DEP) re: Meadowbrook Energy LLC
  - ❖ Meadowbrook letter dated April 30, 2018
  - ❖ [https://www.epa.gov/sites/production/files/2018-05/documents/meadowbrook\\_2018.pdf](https://www.epa.gov/sites/production/files/2018-05/documents/meadowbrook_2018.pdf)
- > Relevant for common control determinations for co-located and support facilities

## Source Aggregation - Common Control (2/3)

- > Bottom Line:
  - ❖ Control assessment should focus on power of one entity to dictate air quality compliance decisions of other facility
  - ❖ Mere ability to “influence” does not constitute common control
  - ❖ Examples of air quality-related control include the power to:
    - ◆ Direct the construction/modification of emitting equipment
    - ◆ Dictate the manner in which these EUs operate
    - ◆ Make decisions re: the installation/operation of air pollution control equipment
    - ◆ Direct monitoring, testing, recordkeeping, and reporting obligations
  - ❖ If each entity has autonomy re: its AQ permitting obligations and related compliance strategies, each is a separate source

## Source Aggregation - Common Control (3/3)

### > Caveats:

- ❖ Refining EPA's interpretation and policy concerning "common control" does not "change or substitute for any law, regulation, or other legally binding requirement"
  - ◆ More fine print (in a footnote this time)!- This document is not a rule or regulation, and the statements herein are not binding on state or local permitting authorities. This discussion reflects a change in how EPA interprets the term "common control" in its regulations but does not change or substitute for any law, regulation, or other legally binding requirement.
- ❖ Local agencies with EPA-approved Title V/NSR programs may take more stringent interpretation than federal guidance
- ❖ Case-by-case assessment

## Source Aggregation - Adjacency (1/3)

- > *Draft Guidance: Interpreting "Adjacent" for New Source Review and Title V Source Determinations in All Industries Other Than Oil and Gas*
  - ❖ <https://www.epa.gov/nsr/draft-guidance-interpreting-adjacent-new-source-review-and-title-v-source-determinations-all>
  - ❖ Draft guidance issued by William Wehrum (EPA)
  - ❖ Made available on September 4 for stakeholder review and comment until October 5, 2018

## Source Aggregation - Adjacency (2/3)

- > Revised interpretation of determining if two or more facilities are “adjacent”
  - ❖ For industries other than oil and gas, interpretation of “adjacent” will only consider physical proximity, not functional interrelatedness
- > Previous determinations aggregated operations that were a mile apart connected by railroad - “functionally equivalent” to a plant
- > Revised interpretation is consistent with 2012 *Summit Petroleum* court case which referred to dictionary definition of “adjacent”
  - ❖ “Close to; lying near...next to, adjoining”



## Source Aggregation - Adjacency (3/3)

- > Bottom Line:
  - ❖ Functional interrelatedness will no longer be considered in determining if two or more sources are adjacent
- > Caveats:
  - ❖ Revised interpretation is not a regulation and does not create binding requirements for other permitting authorities.
  - ❖ Local agencies with EPA-approved Title V/NSR programs may take more stringent interpretation than federal guidance.



# Questions?



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