

# Overview: Proposed Changes to EPA's Section 608 National Refrigerant Management Program

**Disclaimer:** This presentation is for informational purposes only.  
It does not supersede the Code of Federal Regulations or the  
proposed rule published on Nov. 9, 2015, in the Federal Register.

# Overview



- Goals and current requirements of the National Refrigerant Management Program
- Why it makes sense to propose changes
- Changes in Proposed Rule
  - Goals
  - Benefits
- Next steps
- Questions

# National Refrigerant Management Program

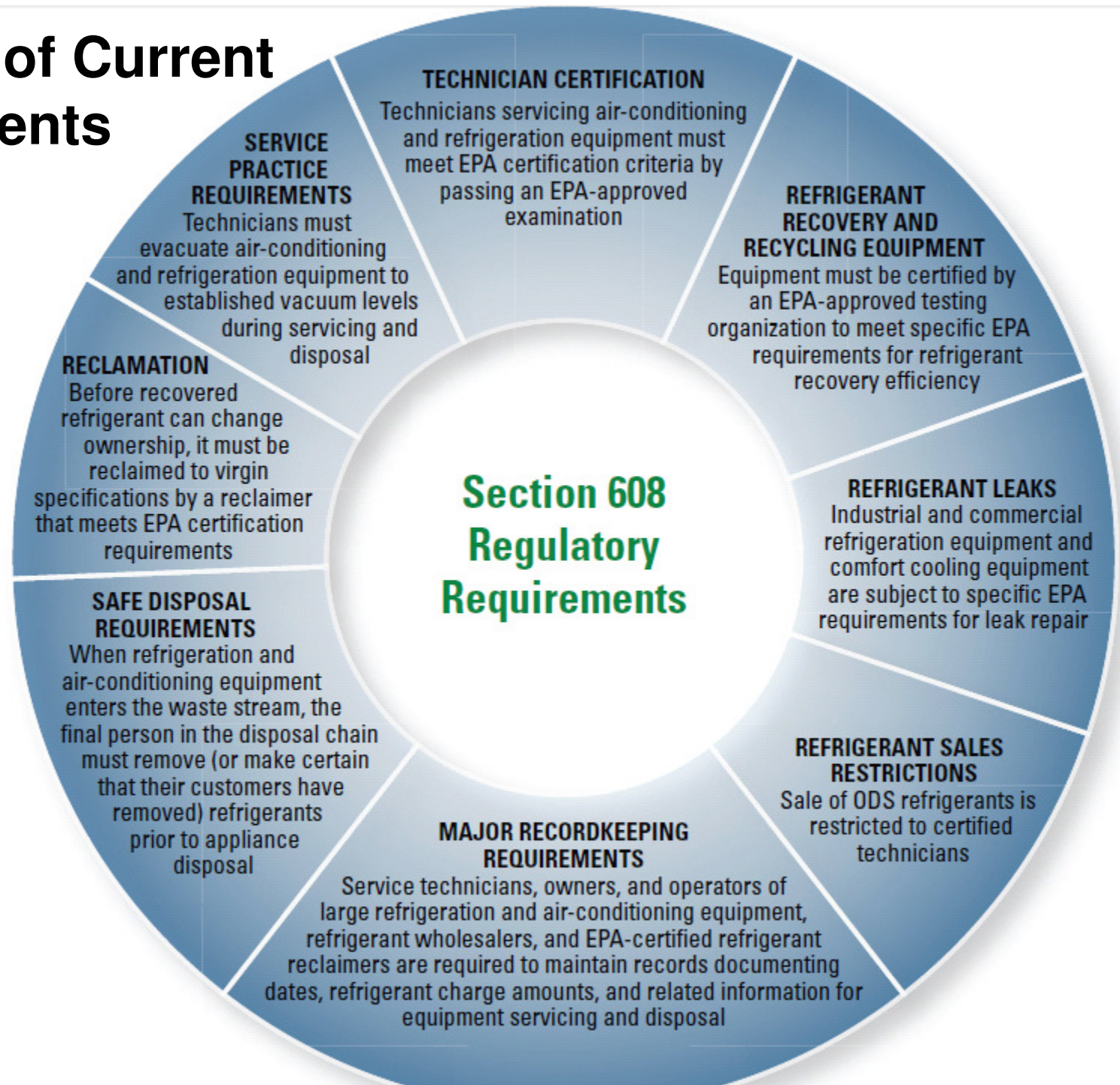


**Purpose of Section 608 of Clean Air Act:** Reduce emissions of ozone-depleting substances (ODS) and substitute refrigerants during the maintenance, service, repair, and disposal of appliances

Current requirements include:

- Prohibition against knowingly venting ODS and substitute refrigerants
- Service practices (ODS)
- Safe disposal requirements (ODS)
- Leak repair and leak prevention for larger appliances (ODS)

# Overview of Current Requirements



# Goals of 608 Updates



- Larger context
  - Climate Action Plan
  - Industry petition to create a level playing field for commonly used refrigerants
- Immediate goals
  - Extend Section 608 requirements to hydrofluorocarbons (HFCs) and other substitutes that are not exempt from the venting prohibition (“non-exempt substitutes”)
  - Decrease leaks from large appliances
  - Enhance clarity and ease of compliance – and make enforcement simpler
  - Continue to create incentives that support careful management of refrigerants

# Climate Action Plan: HFCs



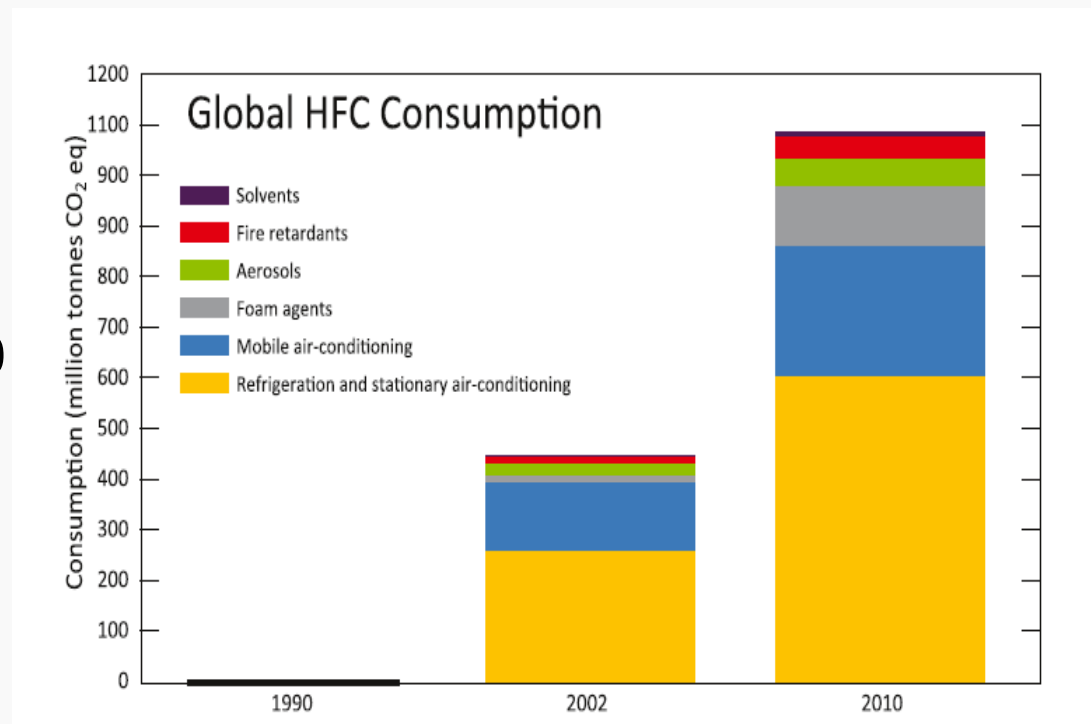
- Continue international diplomacy
  - Lead negotiations under the Montreal Protocol to phase down HFCs
    - Global phase down could reduce over 90 gigatons of CO<sub>2</sub>eq by 2050, equal to roughly two years worth of current global GHG emissions
  - Work with partners in the *Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants* to promote climate-friendly alternatives to high-GWP HFCs, address technical standards, and reduce emissions from HFC use
- Address HFCs through domestic actions
  - Use existing Clean Air Act authority of *Significant New Alternatives Policy (SNAP) Program* to approve climate-friendly chemicals, prohibit some uses of most harmful
  - Provide federal leadership by *purchasing cleaner alternatives to HFCs* whenever feasible and by *transitioning to equipment using safer, more sustainable alternatives*
  - Announced refrigerant management updates at White House (9/2014)



# Why are HFCs a Concern?



- HFCs are synthetic, fluorinated greenhouse gases
- Use and emissions of HFCs are rapidly increasing
- 2004 to 2008: Global HFC emissions increased by about 8% per year
- U.S. HFC emissions expected to double from current levels of 1.5% of greenhouse gas emissions by 2020, and triple by 2030
- If trends continued, HFC emissions could make up nearly 20% of total carbon dioxide emissions by 2050



UNEP 2011

# Proposed Changes: Appliance Repair



## Proposed Structure

- Calculate leak rate whenever refrigerant is added
- If leak rate exceeds applicable leak rate
  - Conduct leak inspection
  - Repair all identified leaks within 30 days
    - Time extensions available
    - Conduct initial verification test before adding additional refrigerant
    - Conduct follow-up verification test
  - If leaks cannot be repaired, develop retrofit/retirement plan within 30 days of discovering the leak
  - Appliance retrofit/retirement must be completed within 1 year
    - Time extensions available



# Proposed Changes: Appliance Repair



<u>Action/Topic</u>	<u>Current</u>	<u>Proposed change</u>
Appliances affected	All ODS appliances with full charge of 50 lbs. or more	All appliances with full charge of 50 lbs. or more of non-exempt refrigerants (e.g., ODS, HFCs)
Leak rate	Leak rate is 35% for refrigeration appliances and 15% for comfort cooling	Lower to 20% and 10%, respectively Would exempt seasonal variances from counting toward leak rate
When leak rate exceeds trigger rate	Repair leaks within 30 days such that the leak rate is brought below the trigger rate	Conduct leak inspection and repair all identified leaks within 30 days
How to verify repairs	Initial and follow-up verification tests required for Industrial Process Refrigeration (IPR) and federally-owned appliances	Initial and follow-up verification test required for all affected appliances
If owner/operator fails to repair within 30 days plan	Must develop a retrofit/retirement plan	Unchanged
Timeline for retrofit/retirement plans	Appliance must be retrofitted or retired within 1 year	Unchanged

# Proposed Changes: Repair Extensions



<u>Action/Topic</u>	<u>Current</u>	<u>Proposed change</u>
Extensions to 30-day repair timeline	If appliance or isolated appliance component is mothballed	Unchanged
	Up to 120 days for an industrial process shutdown	Unchanged
	If Federal, state, or local regulations prohibit timely repairs (IPR only)	Would be extended to all affected appliances
	If necessary parts are not available (IPR only)	Would be extended to all affected appliances but capped at 180 days
	If appliance is located in an area subject to radiological contamination or where the shutting down of the appliance will directly lead to radiological contamination (federally-owned only)	Would be extended to all affected appliances
	Extension request required for all but mothballing and IPR shutdown	Unchanged

# Proposed Changes: Retrofit/Retirement



<u>Action/Topic</u>	<u>Current</u>	<u>Proposed change</u>
Extensions to the 1-year retrofit/retirement timeline	If appliance or isolated appliance component is mothballed	Unchanged
	If Federal, state, or local regulations prohibit timely retrofit (IPR only)	Unchanged
	If a suitable replacement refrigerant with a lower ozone depletion potential is unavailable (IPR only)	Removed
	If a critical component of a custom-built IPR appliance is not available on time (IPR only)	Largely unchanged
	If complications are presented by the federal agency appropriations and/or procurement process (federally-owned only)	Unchanged
	If appliance is located in an area subject to radiological contamination and creating a safe working environment will require more time (federally-owned only)	Unchanged
		Up to 18 months if replacement appliance uses an exempt refrigerant

# Proposed Changes: Leak Limit

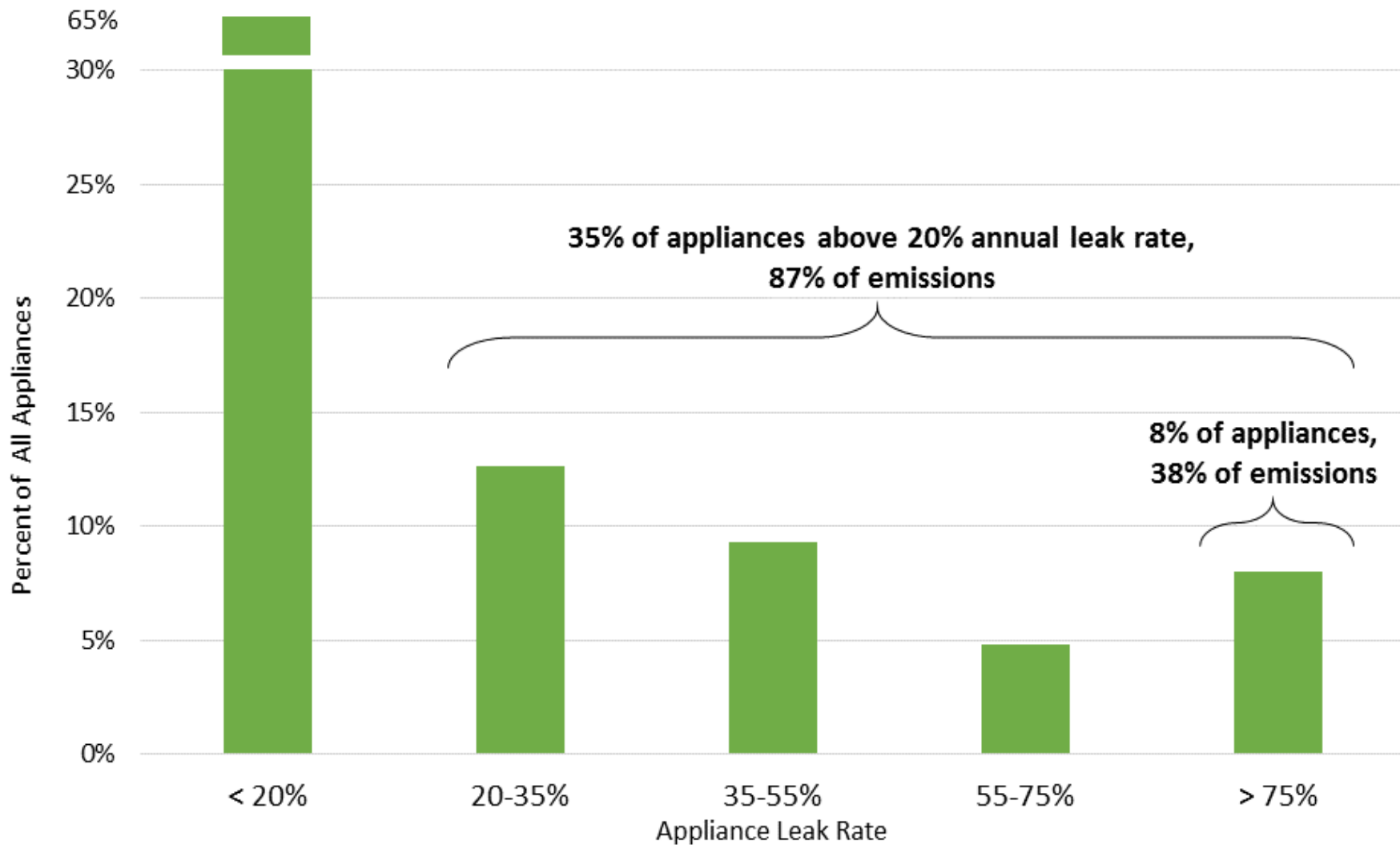


- Establish a 2-year leak limit
  - Prohibit an appliance from leaking more than 75% of its full charge in two consecutive years
  - If leak amount exceeded, appliance would need to be retired or mothballed

## Example

- Appliance leaks 80% of its full charge between Jan. 1 & Dec. 31, 2018
  - From Jan. 1, 2019 to Dec. 31, 2019, the appliance could not leak more than 75% of its full charge
  - If above 75% in 2019, appliance would need to be retired or mothballed
- Taking comment on
    - Whether to allow for retrofit/retirement plan in lieu of mothballing
    - Whether to provide an exception for unavoidable catastrophic leaks
    - How the timeframe should be set up: two consecutive years? time periods based on calendar year or rolling?

# California Air Resources Board (CARB) Data



# Proposed Changes: Leak Inspections



- Require regular leak inspections, unless regularly-calibrated automatic leak detection equipment installed
  - Quarterly for 500+ pound commercial refrigeration & IPR
    - Annual inspections allowed if no refrigerant has been added in the past 365 days
  - Annually for all other appliances with 50 or more pounds
  - Proposing lower and higher charge thresholds for annual vs. quarterly
- Leak inspection would include examination of the refrigerant circuit of an appliance using
  - A calibrated leak detection device
  - Bubble tests
  - Visual inspection for oil residue
- Proposing to allow leak inspections be conducted by staff other than a certified technician

# Proposed Changes: Recordkeeping/Reporting



- Technicians would provide service and maintenance records for owners/operators
- Owners/Operators would keep all service records, leak inspection results, full charge calculations, verification test results, retrofit/retirement plans, extension requests, etc.
- EPA encourage owners/operators to use electronic recordkeeping systems
- Establishing a new email address to send required reports to: [608reports@epa.gov](mailto:608reports@epa.gov)
- Would need to notify EPA if seeking an extension

# Servicing & Disposal Practices



- **Currently:** Technicians working on equipment containing ODS refrigerants must be certified and abide by described practices, such as recovering refrigerant from an appliance before servicing.
- Proposal extends requirements to apply to HFCs and other non-exempt substitutes
- Technicians disposing of field-installed appliances required to keep records
  - Current gap in recordkeeping requirements for equipment between 5 and 50 pounds
  - Recordkeeping would include the amount of refrigerant recovered and the final disposition of refrigerant removed from appliances



# Other Proposed Changes to 608



- All non-exempt refrigerants in small appliances would need to be recovered before disposal
- Technicians would have to be certified to purchase all non-exempt substitutes, with exemption for small cans
- Distributors would have to keep sales records and verify purchasers are (or employ) certified technicians
- Technician certification companies would have to publish lists of who is certified (prospective, with opt-out for privacy)
- Would remove reporting requirement for ownership of recovery equipment
- Would update standards for recycling/recovery equipment and reclamation
- Would restructure regulation to better group requirements
- Other wording changes to improve clarity and effectiveness

# Proposed Compliance Dates



- Small cans for MVAC servicing
  - 1 year after final rule published: Newly-manufactured small cans would need a self-sealing valve installed
  - 2 years after final rule published: Small cans placed into inventory within 1 year of the final rule could no longer be sold
- Safe disposal of small appliances: 1 year after final rule
- Proper evacuation and servicing requirements: 1 year after final rule
- Technician certification: 1 year after final rule
- Appliance maintenance and leak repair requirements: 18 months after final rule
- All other requirements: January 1, 2017

# Benefits



- Rule benefits

Annual GHG Reductions (MMT <sub>CO<sub>2</sub>eq</sub> )	Annual ODS Reductions (ODP-weighted MT)	Annual Incremental Compliance Cost (millions)
7.5	116	\$63

- 7.5 million metric tons carbon dioxide equivalent (MMT<sub>CO<sub>2</sub>eq</sub>) of greenhouse gas (GHG) emissions reductions is the same as taking about 1.6 million cars off the road for a year
- We anticipate the regulated community would also experience \$52 million in cost savings related to reduced purchases of refrigerant

# Outreach and Next Steps



## Outreach/Stakeholder Engagement in Rule Development Phase

- November 2014 stakeholder meeting, 50+ participants
- More than 50 meetings with industry, environmental groups, trade associations, states

## Next Steps

- *November 9 – Proposed rule published in Federal Register (80 FR 69457)*
  - January 8 – Deadline to submit written comments
- ***We encourage you to submit comments!***



Thank You  
Questions?