

OTC SAS Committee Update

OTC/MANEVU Stakeholders Meeting

April 22, 2024

Stationary and Area Sources Committee

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OZONE TRANSPORT COMMISSION

Presentation Overview

SAS 2023 Charge

- ✓ Assessing Source Emissions Inventory
- ✓ Provide Technical Support on Individual Sectors
- ✓ Cross-Committee Collaboration
- ✓ EPA Office of Air Quality Planning and Standards (OAQPS) Engagement

Additional Focus Areas

- ✓ Employ available emission inventory estimates to research and analyze additional strategies that reduce stationary and area source emissions in a cost-effective manner.

Assess Source Emissions Inventory

Update:

- Analysis of VOC EFs for NG boilers with Ultra Low NOx Burner (ULNB):
 - RACT/BACT/LAER Clearinghouse indicates that VOC EFs for NG boilers with ULNB may be lower than those in AP42.
 - Less variation in RACT/BACT/LAER Clearinghouse data compared to AP42.
 - Discussed with the OTC directors: As opportunity presents, discuss with EPA that they review AP42 VOC EFs for NG boilers.
- Will continue to evaluate other EFs for potential improvements for sectors with significant NOx emissions.

Technical Support on Sectors: ICI Wood Boiler Inventory

Update:

- Workgroup has presented the directors with conclusions and next steps based on the inventory work; discussions are now ongoing with the Modeling Committee as to how to model the air quality impacts of these sources.



Technical Support on Sectors: Heat Pump Water Heaters

- A report was drafted to quantify costs of transitioning from inefficient and fossil fuel-fired water heaters to heat pumps.
- Provides equipment, installation, and operating cost comparison for:
 - Heat pump vs. oil, methane, propane, and electric resistance water heaters.
 - Spreadsheet calculator available that incorporates utility, labor, and other state-specific data.

Heat Pump Water Heaters in the Northeast and Mid-Atlantic: Costs and Market Trends



Heat Pump Water Heaters (Continued)

Legend	Cell Inputs	Cell Outputs	Assumptions	Password to unprotect sheet: ES				
	State	Electric Utility Size	Natural Gas Utility Size	Tin (F)	Electricity	Natural Gas	Propane (\$/therm)	Fuel Oil (\$/therm)
State Data	MD	Largest Utility	Largest Utility	61.9	\$ 0.12	\$ 1.57	\$ 3.75	\$ 3.58

	Fuel	Type	Draw Pattern	Efficiency Level	UEF
Baseline	Natural_Gas	Storage_WH	Medium	0	0.58
Measure	Electric	240V_HPWH	Medium	2	3.35

Constants	
lbs/Gal	8.33
kWh/MMBTU	293.07
Therms/MMBTU	10
Gallons/Year	16607.5
HPWH EUL (yrs)	10
Tout	125

- Report was drafted for OTC and NESCAUM.
- OTC/NESCAUM finalizing report; will post this spring.
- Study will be followed by a similar analysis for space heating.
- Spreadsheet calculator.

Cross Committee Collaboration

Update/Next Steps:

- Coordinated with Modeling Committee on:
 - Modeling ICI wood boilers, including identification of SCCs.
 - Modeling for residential building electrification: lower emissions due to reduced fossil fuel combustion, but must account for small increase in electricity generating emissions associated with more electricity demand.



Update:

- Will provide information in May to EPA OAQPS on:
 - The RACT and Control Measures Tool and RACT cost analysis.
 - Residential building electrification report/analysis:
 - Water heating, space heating, and whole home electrification-related NO_x reductions.
 - Heat pump water heater cost analysis:
 - Spreadsheet to calculate costs for individual states.
 - Report detailing equipment, installation, and operating costs.
- Recommendations for improved VOC EFs for NG boilers with ULNB.

Other: MWC NSPS and Emission Guidelines

- EPA proposed to update the large MWC NSPS and emission guidelines.
 - Existing facilities: NO_x emissions limit of 110 ppmvd (24-hour average) identical to the OTC MWC report (but did not include OTC's recommended 30-day NO_x standard).
 - New facilities: NO_x emission limit of 50 ppmvd (24-hour average) based on SCR installation.
- SAS Committee submitted comments in support of the proposal on March 25th.
 - Commented on five items for which EPA requested input.
 - Included OTC MWC report as an attachment.

Other: Updates to OTC Model Rules

Update:

- Consumer model rule edits (based on stakeholder feedback):
 - Administrative and formatting updates: added dates, cleaned up rules, and re-posted CP Phase I, II, III, and IV.
 - Clarified that “Sealant or Caulking Compound” does not include pipe thread sealants or pipe joint compounds.
- Adhesives model rule edits:
 - Clarified that compliance for low solids adhesives is demonstrated utilizing a different formula than other adhesives.

Thank You!

Stationary and Area Sources Committee

Wendy Jacobs, Connecticut DEEP



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