Stationary and Area Sources Committee Activities

OTC Stakeholders' Meeting

April 13, 2021

Francis Steitz, NJ
Chair
Stationary and Area Sources Committee





OZONE TRANSPORT COMMISSION

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Agenda

- 2020 Charge Review and Progress Update
  - Sector work
  - RACT
  - Episodic modeling
  - EPA Office of Air Quality Planning and Standards Engagement
  - Additional topics
- 2021 Charge Discussion

Reminder: 2020 Charge

- Sector Support:
    - Technical support for individual sectors – begin with municipal waste combustors (MWC)
    - Develop a technical resource webpage that enables states to work from a common platform for rule and permit limits
    - Additional sectors, as determined by future charges
- RACT Support:
    - Collect, compile and distribute technical information to support state RACT analyses
- Episodic Modeling:
    - Develop a strategy for episodic modeling and clarify SAS's role in this effort
- OAQPS Engagement:
    - Identify opportunities to meet and brief OAQPS staff on the benefits of OTC model rules
    - Facilitate information exchange/open a dialogue on the feasibility for national action in targeted areas
- Continue to review data to inform focus and priority work for 2021 SAS Charge
- Support work of other SAS Committees

Provide Technical Support for Individual Sectors

- Municipal Waste Combustor Pilot
  - ~100 OTR MWCs, ~60 outside the OTR
  - Inventory of units and NOx emissions
  - >20,000 tons of NOx in OTR annually
  - New limits could reduce 6,700 tons of NOx annually in the OTR
  - Workgroup recommended additional NOx limits (24-hour 110 ppmvd and 30-day 105 ppmvd averaging periods)
  - Evaluated costs ($/ton of NOx reduced) - $2,900 to $6,100/ton
  - MWC is an environmental justice issue given locations of facilities
- Potential 2021 Charge items:
  - Consider policy approaches for MWCs based on report recommendations
  - Conduct additional pilots (small EGU or other sectors being considered)

RACT Support

- RACT Tool Development
  - Develop excel-based tool to track RACT work
    - Potential to transfer to web-based tool or analytical tool in the future
  - Facilitate timely updates of state activity relevant to ozone
  - Ability to sort and generate reports on current RACT levels by state, sector, or pollutant

NOx Limits Summary | Print Preview

	Source	CT	DE	DC	ME	MD	MA	NH	NJ	NY	PA	RI	VT	VA
Natural Gas Boilers	50-100 (mmBtu/hr)	0.20 - 0.43a; 0.20 - 0.30b; 0.05 - 0.10c	LEA, low NOx, FGR	>20 mmBTU/hr; adjust combustion process	Tune-up (20-50 MMBtu/hr)	Tune-up	0.1	0.10 to 0.20	0.05	No limits	0.1	0.1	No limits	0.2
	100-125 (mmBtu/hr)	0.15 - 0.43a; 0.10 - 0.30b; 0.10c	0.2	0.2	No limits	0.2	0.2	0.10 to 0.25	0.1	0.08 – 0.20	0.1	0.1	No limits	0.2
	>250 (mmBtu/hr)	0.15 - 0.43a; 0.10 - 0.30b; 0.10c	0.2	0.2	No limits	0.7	0.2	0.10 to 0.25	0.1	0.08 – 0.20	0.1	0.2	0.2	0.2
Oil Boilers	50-100 (mmBtu/hr)	Distillate 0.20 - 0.43a 0.20 - 0.43b 0.10c Residual 0.25 - 0.43a 0.25 - 0.43b	LEA, LNB, FGR	Distillate 0.30 Residual Banned	0.3	No limits	Tune-up	0.12 (#2 oil); 0.30 to 0.50 (other oil types)	Distillate 0.08 Residual 0.20	0.08 to 0.2	Distillate 0.12 Residual 0.20	Distillate 0.12 Residual LNB & FGR	No limits	0.25 to 0.43
	100-125 (mmBtu/hr)	Distillate 0.15 - 0.43a 0.10 - 0.43b 0.10 - 0.15c Residual 0.15 - 0.43a 0.15 - 0.43b	0.38 to 0.43	Distillate 0.25 Residual Banned	0.3	0.25	Distillate 0.3 Residual 0.4	0.12 (#2 oil); 0.30 to 0.50 (other oil types)	Distillate 0.10 Residual 0.20	0.15	Distillate 0.12 Residual 0.20	Distillate 0.12 Residual LNB & FGR	No limits	0.25 to 0.43
	>250 (mmBtu/hr)	Distillate 0.15 - 0.43a 0.10 - 0.43b 0.10 - 0.15c Residual 0.15 - 0.43a 0.15 - 0.43b	0.38 to 0.43	Distillate 0.25 Residual Banned	0.3	0.7	0.25 to 0.28	0.12 (#2 oil); 0.30 to 0.50 (other oil types)	Distillate 0.10 Residual 0.20	0.15 to 0.20	Distillate 0.12 Residual 0.20	Distillate 0.25 Residual LNB & FGR	0.3	0.25 to 0.43

Episodic Modeling

- Modeling Committee conducting peak day/episodic modeling to accurately capture NOx contributors on High Electric Demand Days (HEDD) and to accurately quantify the benefits from peak ozone day strategies
- Modeling Committee supplied SAS with a list of targets for modeling peaking units
- SAS formed ad hoc workgroup to provide feedback on data
- Ad hoc workgroup developed a set of criteria that would identify appropriate emission units for initial modeling
- Workgroup discussed the transformation in power generation in the last five years, and the need to revisit the definition of peaking units to match with the new EGU operational modes
- Final data set reviewed by workgroup to update emissions and operating data

Office of Air Quality Planning and Standards (OAQPS) Engagement

- SAS Committee identified topics for engagement with OAQPS
- Held a call in March with OAQPS management
- Facilitate information exchange/open a dialogue on the feasibility for national action in targeted areas
  - Conversation focused on sector work (MWC/other)
  - Policies to improve regional consistency for RACT determinations
  - Updates to federal regulations
- Agreed to share information on MWC, coordinate on NOx offsets, behind the meter generation, and hear from OAQPS on upcoming work

Additional Topics: Building Electrification

- Heating accounts for majority of building related emissions
- In addition to supporting OTC, information is useful for regional haze strategies
- Using the Department of Energy's ResStock modeling tool, SAS evaluated two heating system electrification scenarios
    - Replace #2 fuel oil furnaces with air source heat pumps
    - Replace natural gas furnaces with air source heat pumps
- Fuel oil scenario results show NOx decreased up to 57%
- Natural gas scenario results show NOx decreased 9%
- Heat pumps also reduce air conditioning related emissions and this may be evaluated in a follow-on analysis

Developing the 2021 Charge – Items for Consideration

- Develop technical information for new sectors – identify 1 to 2 sectors
  - EGU's – possible focus on small EGU
  - Peaking units
  - ICI boilers
  - Tank farms
  - Cement kilns
  - Non-traditional sources (building sector)
- Requested policy direction: technical sector work (MWC) will be provided to Directors/Commissioners at upcoming meetings – requesting input if SAS work should focus on new approaches (peak day partnership), previous approaches (model rules), or case-by-case basis?
- Coordinate with other OTC/MANE-VU efforts to inform inventories, modeling, and other OTC efforts.
- Assess Area Source inventory analysis