Delaware's Approach to Satisfy CAA 110(a)(2)(D)(i)(I) for the 2008 Ozone NAAQS

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Ali Mirzakhalili, Director

Division of Air Quality

State of Delaware

Background

- Delaware submitted its 110(a)(2) SIP in January 2012,
- EPA initially rejected the 110(a)(2)(D)(i)(I) portion of Delaware's SIP in a March 29, 2012 letter, with the rationale,

> "*EPA would expect a demonstration that contains information supporting a claim that a state does not significantly contribute or interfere with maintenance of the 2008 ozone NAAQS in other states*."

- Delaware corrected this deficiency in a 2013 SIP revision.
- EPA has not yet acted on Delaware's submission.

How to Satisfy 110(a)(2)(D)

Good neighbor provision is **not** a future obligation. It gets triggered by EPA issuing a new or revised national ambient air quality standard (NAAQS).

Do one of the following **not later than 3-years after NAAQS issued**:

- Demonstrate the total emissions from the state do not impact any nonattainment / maintenance area by more than 1% of the NAAQS, or
- Demonstrate that there are adequate provisions in the SIP that address emissions growth and cover all non-trivial sources and other types of activities in the State, or
- Adopt measures to address emissions growth and assure that all non-trivial sources are regulated and well-controlled.

Delaware's Approach

- Used the most recent PEI to identify every stationary source and every source category that emitted equal to or greater than 25 TPY of either VOC or NOx, and that made up the top 99% of the total VOC and NOx inventory.

- For each source/source category, identified the associated control measures currently in the SIP, and their cost effectiveness.

- For each source/source category, identified any additional feasible control opportunities, and their cost effectiveness.

- Demonstrated that any additional opportunities for controlling emissions are either outside of the State's regulatory authority (e.g., car tailpipe emissions beyond CA LEV 3), impractical as a State only initiative (e.g., AIM coating beyond regional rule) or carry an additional incremental cost in excess of a set cost threshold. Delaware recommended that EPA set this cost threshold at $5,000 per ton.

- Demonstrated that the measures in the SIP ensure every nontrivial VOC and NOx emission source is well-controlled, based on the above criteria.

Delaware's Strategy Has Been Effective

- Between 1990 and 2005:
  - 63% reduction in VOC and 52% reduction in NOx,
- Between 2005 and 2009:
  - Additional 13% reduction in VOC and 30% reduction Nox
- Overall reduction in Delaware since 1990 was a 68% reduction in VOC and a 67% reduction in NOx emission levels.

Delaware Emission Control Cost

Regulation (7 DE Admin. Code)	Pollutant	Estimated Cost Effectiveness
1112 (NOx RACT)	NOx	$400 - $12,300 per ton
1124 (VOC RACT)	VOC	$3,000 - $29,000 per ton
1126 (Vehicle I/M)	VOC, NOx	$1,000 - $5,000 per ton
1136 (Vehicle I/M)	VOC, NOx	$1,000 - $5,000 per ton
1125 (non-attainment NSR)	VOC, NOx	$39,700 to $150,000 per ton
1142, Section 2.0 (NOx emissions from Petroleum Refineries)	NOx	$10,000 - $150,000 per ton
1141, Section 1.0 (AIM)	VOC	$6,400 per ton
1141, Section 2.0 (Consumer Products)	VOC	$800 per ton
1144 (Stationary Generators)	NOx	$23,000 - $90,000
1146 (EGU Multi-Pollutant Regulation)	NOx	$1,200 - $5000 per ton
1148 (Combustion Turbines)	NOx	$63,000 - $78,000 per ton

Additional Control Opportunities

- The next ton of ozone precursor reduction in Delaware is estimated to cost above $5,300.
- The next ton NOx reduced from an EGU in Delaware will cost approximately $8,800.

Delaware Transport Solution

The following measures in Delaware's SIP are adequate and could serve as a model:

- Statewide Vehicle I/M requirements,
- CA LEV program and updates,
- Stringent RACT on all major NOx and VOC stationary sources,
- BACT on all existing coal and residual oil fired EGUs and large industrial boilers,
- BACT on all sources with high daily emissions, despite low annual emissions,
- Adoption of OTC measures for large non-point source categories,
- Major and minor new source review, with minor source thresholds set at 5 TPY for ozone precursor emission.

OTC Stationary and Area Source Measures

Date	OTC Action
2001	OTC Model Rule Consumer Products
2001	OTC Model Rule for Solvent Cleaners
2001	OTC Model Rule for Portable Fuel Container Spillage Control
2001	OTC Model Rule for Additional NOx Control Measures
2002	OTC Model Rule for Architectural, Industrial, and Maintenance Coatings
2006	OTC Model Rule for Adhesives and Sealants
2006	OTC Model Rule for Portable Fuel Containers
2006	OTC Model Rule for Consumer Products
2010	OTC Model Rule for Large Above Ground VOC Storage Tanks
2010	OTC Model Rule on HEDD Turbines
2010	OTC Model Rule on Stationary Generators
2010	OTC Model Rule on Consumer Products
2011	OTC Model Rule on Architectural, Industrial, and Maintenance Coatings
2011	OTC Model Rule on New Small Boilers
2012	OTC Model Rule on Consumer Products
2012	OTC Model Rule on Solvent Degreasing

Final Thoughts

- Transport SIPs must be harmonized with attainment needs as required by the CAA. EPA must determine each state's contribution to other downwind states at the same time as it makes designation.
- Transport SIPs must be submitted on time or there should be a FIP.
- Upwind obligations cannot be deemed satisfied if large portions of inventory remain poorly controlled.
- Cost kick-out must have a nexus with the cost of controls in downwind areas.
- Coordinated SIPs makes sense – Think Large Planning Areas.
- Federal measures for some categories (e.g. AIM, CP, ICI Boilers, RICE, etc.) will help everyone.