Eugene M. Trisko
Attorney at Law*
P.O. Box 596
Berkeley Springs, WV 25411
(304) 258-1977
emtrisko@earthlink.net

***Admitted in DC**

Comments on the Ozone Transport Commission's Draft Model Rules for CAIR-Plus Emission Reductions

Submitted on behalf of:

International Brotherhood of Electrical Workers
United Mine Workers of America
Center for Energy & Economic Development, Inc.
Pennsylvania Coal Association

Introduction

These comments are submitted on behalf of the International Brotherhood of Electrical Workers (IBEW), the United Mine Workers of America (UMWA), the Center for Energy & Economic Development (CEED) and the Pennsylvania Coal Association (PCA). These parties are directly or indirectly involved in the production and transportation of coal or the generation and transmission of coal-based electricity in the Northeast.

States in the Northeast Ozone Transport Region (OTR) are considering model rules for emission controls for electric generating units (EGUs) more stringent than those required by U.S. EPA's March 2005 Clean Air Interstate Rule (CAIR). These model rules include proposed "placeholder" emission reductions of 25% and 40% below the emission allocations for sulfur dioxide (SO2) and nitrogen oxides (NOx) in Phase I and Phase II of CAIR.

Separately, the OTC has convened a "High-Energy Demand Day" (HEDD) work group to develop proposals, *inter alia*, for reducing emissions from oil and gas peaking units and distributed generation that contribute substantially to high ozone levels in the OTR. Several of the proposals under consideration by the HEDD work group merit serious consideration by the OTC states, as they could provide meaningful reductions of ozone precursor emissions that may help states to demonstrate attainment with the 8-hour ozone standard.

Summary of comments

The OTC's proposed model rules for EGU emission reductions, individually or in concert with other control proposals under consideration by OTR states, would not enable the region to demonstrate attainment with the 8-hour ozone standard, and are not needed to attain the annual PM2.5 standard. EPA's final CAIR rule significantly reduces NOx allocations to EGUs in the OTR below the levels required by the 1997 NOx SIP Call.

The proposed model rules would confiscate valuable emission allowances, potentially leading to little more than a redistribution of emissions in the eastern U.S., with no discernable air quality benefits to northeastern states. OTC states should reject outright the proposed model rule for SO2 reductions below CAIR levels, and confine any model rule for NOx limitations to market-based approaches building upon options under consideration by the HEDD work group.

OTC's proposed confiscation and "retirement" of emission allowances has not been endorsed by U.S. EPA, and may be illegal, particularly with respect to Title IV SO2 allowances.[1] For the past two years, U.S. EPA consistently has encouraged OTC states to implement the CAIR program while securing other emission reductions necessary for ozone attainment through local and regional control measures.

OTC sensitivity modeling shows that reducing area and mobile source emissions by 30% along the I-95 Corridor would not enable the few remaining ozone nonattainment areas in the OTR to demonstrate attainment with the 8-hour ozone standard. Any reduction of EGU NOx emissions below CAIR levels would not approach the 2-4 ppb ozone reductions indicated for this extreme 30% sensitivity analysis, covering the emission sources most directly responsible for ozone nonattainment in the Northeast.

U.S. EPA source apportionment modeling for areas within the I-95 Corridor indicates that EGU emissions (both local and transported) will contribute less than 10% to ozone levels on days exceeding the ozone standard. Imposing additional "CAIR-Plus" EGU NOx reductions would not reduce more ozone than the 2-4 ppb reductions estimated for the 30% area and mobile source sensitivity case.

The OTC has not advanced any PM2.5 modeling evidence to support its proposed model rules for confiscating SO2 emission allowances. U.S. EPA's CAIR modeling indicates that residual nonattainment of the annual PM2.5 standard in 2010 is limited to a small area of western Pennsylvania, suggesting the need for local controls.

U.S. EPA recently issued revised PM2.5 standards lowering the 24-hour standard to 35 ug/m3. Some areas within the OTR are likely to be designated as nonattainment with the new 24-hour standard. Decisions regarding the appropriate mix of control strategies for different source sectors should be made in the normal process of SIP development for the new PM2.5 standard. The OTC's draft model rules are premature

[1] *See*, Clean Air Markets Group v. Pataki, 338 F.3d 82 (2d Cir., 2003), affirming lower court decision striking down New York statute limiting geographic sales of Title IV SO2 allowances.

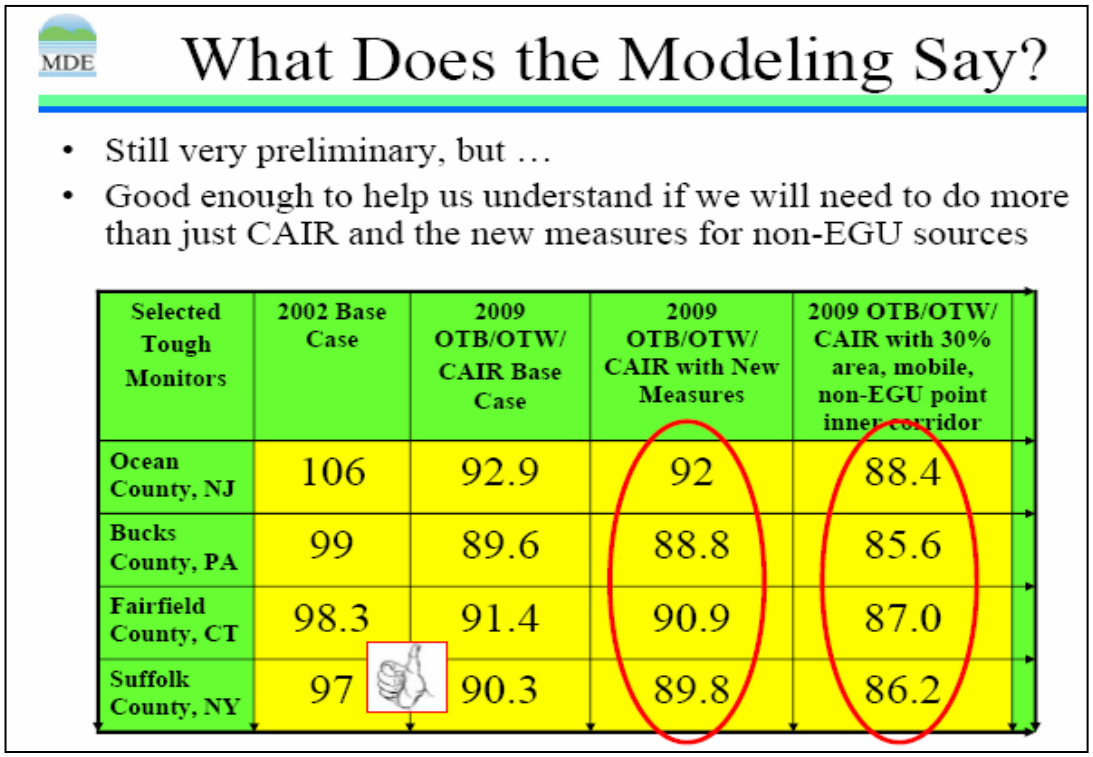
for addressing potential 24-hour PM2.5 control strategies. Such strategies should be developed following designation of nonattaining counties and modeling of the costs and effectiveness of alternative control measures in reducing short-term PM concentrations.

OTC's preliminary ozone modeling does not support the need for "CAIR-Plus" EGU NOx reductions as proposed in the OTC model rules

Chart 1 summarizes OTC's preliminary ozone modeling for four high-ozone areas in 2009, including a 30% emission reduction sensitivity case for area, mobile and non-EGU point sources in the inner corridor. This sensitivity case brings most of these areas closer to attainment, but no control strategies are under consideration to achieve this level of emission reduction from sources within the inner corridor.

The ozone reductions from the 30% sensitivity case relative to the 2009 "On the Books/On the Way/CAIR with New Measures" strategy are approximately 2-4 ppb. OTC has not produced any modeling to support the EGU draft model rules as a "last resort" mechanism for achieving attainment.

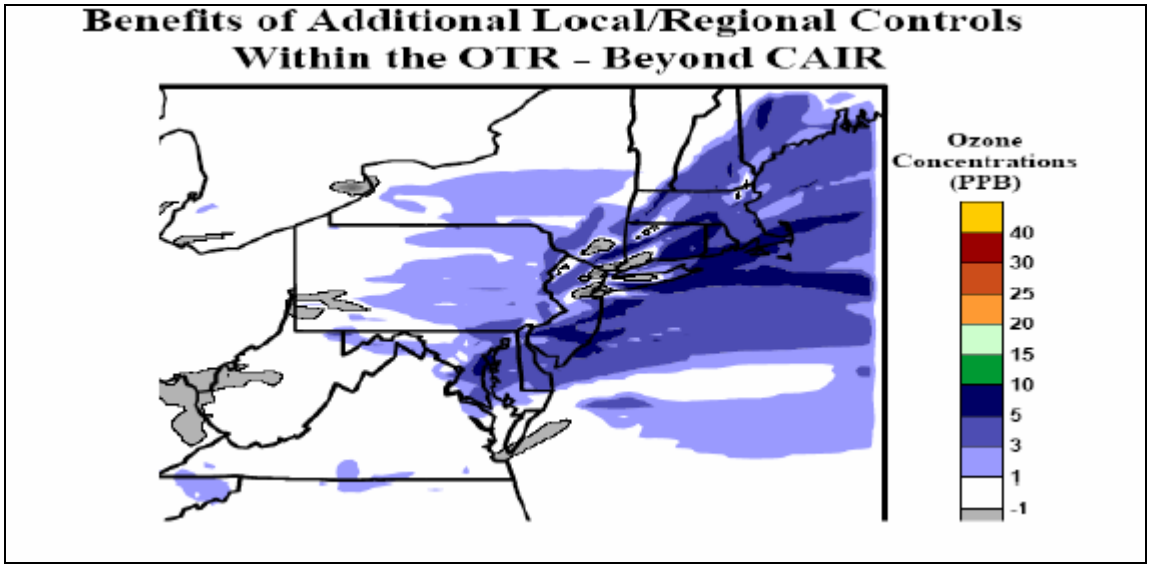
Chart 1



Source: Presentation by Tad Aburn, MDE, OTC SAS Meeting, September 19, 2006.

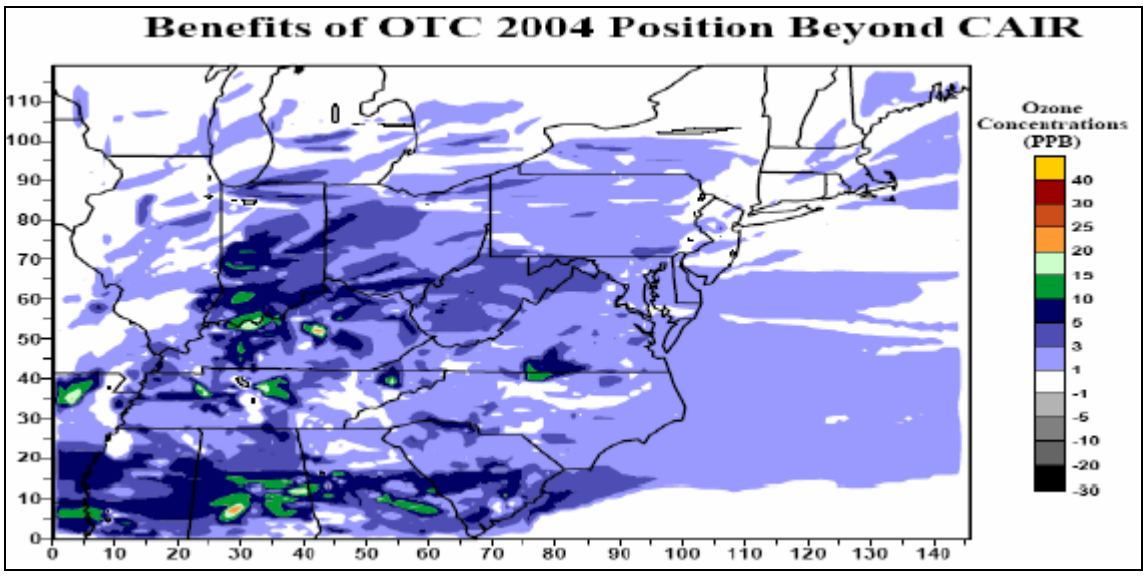
OTC's CALGRID screening modeling of potential CAIR-Plus EGU controls and local control measures illustrates the importance of local sources in ozone control strategies (Chart 2), and the lack of significant ozone benefits in the I-95 Corridor from CAIR-Plus EGU controls even when applied across the eastern United States (Chart 3):

Chart 2



Source: OTC

Chart 3

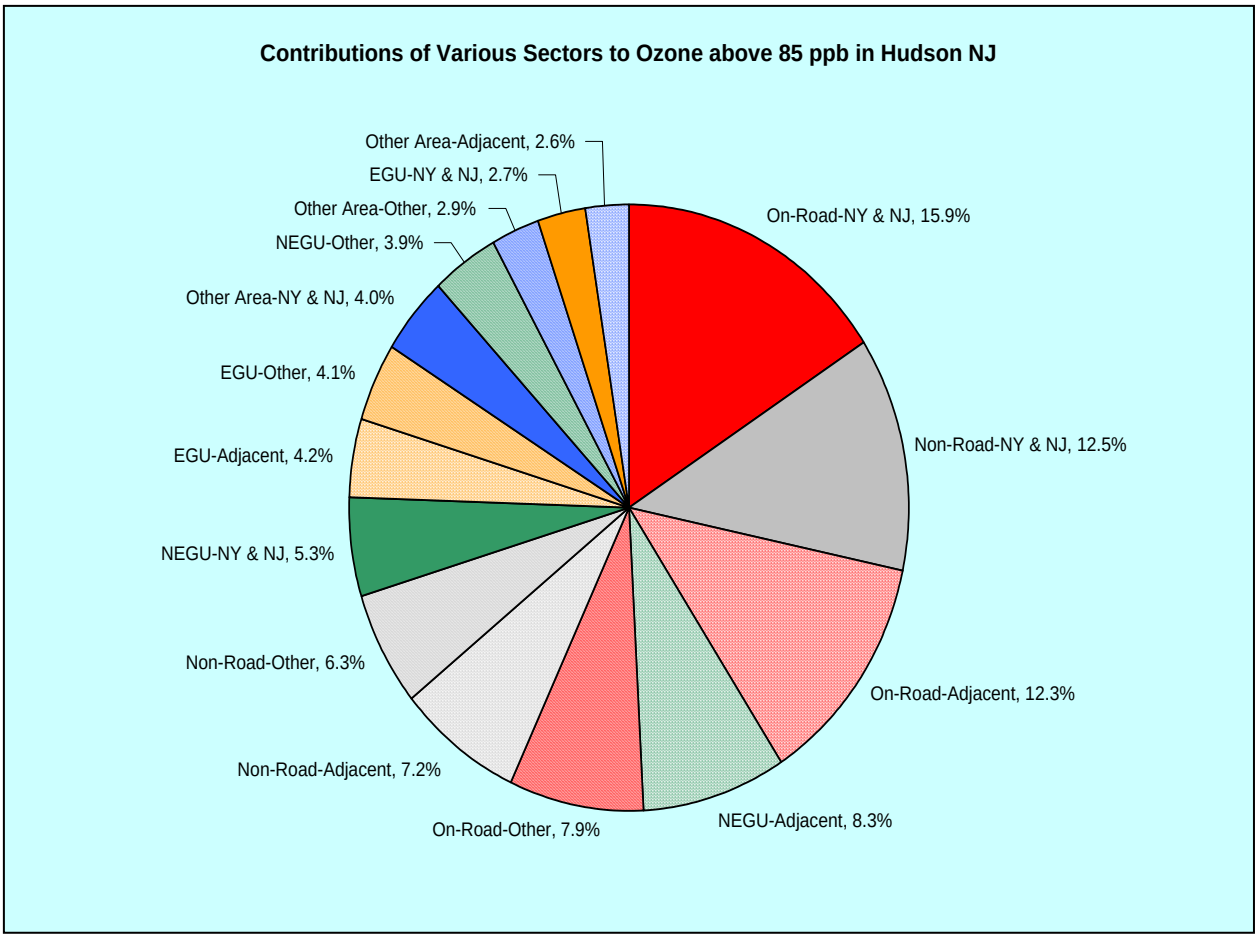


Source: OTC

EPA source apportionment modeling confirms the relatively small contribution of both local and regional EGU sources to projected OTR ozone nonattainment.

U.S. EPA performed source apportionment modeling to support the development of the CAIR rule.[3] Charts 4 and 5 summarize contributions to ozone concentrations in Hudson County, New Jersey and Anne Arundel County, Maryland, in the 2010 (SIP Call) Base Case.

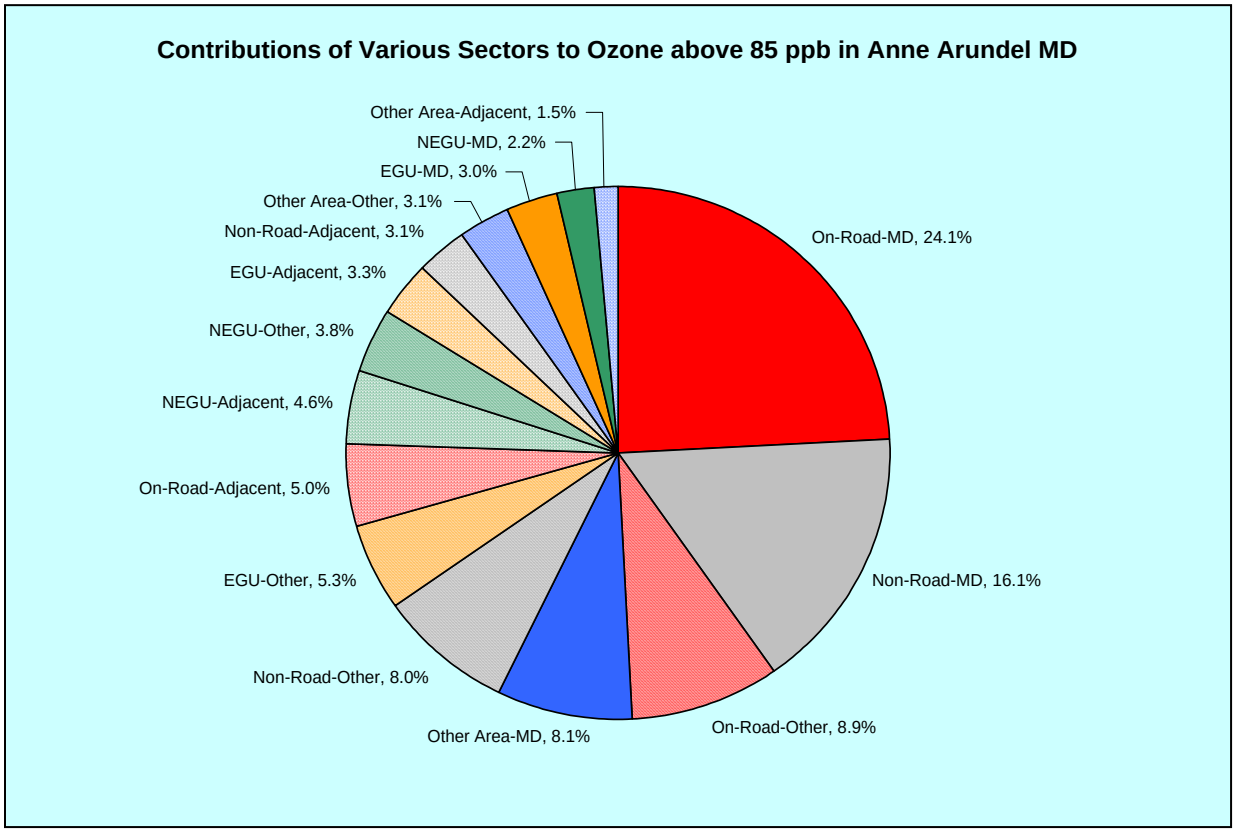
Chart 4



[2] See, U.S. EPA, Synthesis of Air Quality Assessments: Identification of Important Contributors to Ozone and PM Nonattainment, and Regional Haze (October 15, 2004).

In Hudson County, contributions from EGU sources in New Jersey and New York represent 2.7% of concentrations on high ozone days, while EGUs from adjacent states represent another 4.2%. On-road and non-road sources in New Jersey, New York and adjacent states are the dominant causes of ozone nonattainment, representing 48% of emissions contributing to exceedance of the ozone standard. Non-EGU point sources in New York, New Jersey and adjacent states contribute nearly 14%.

Chart 5



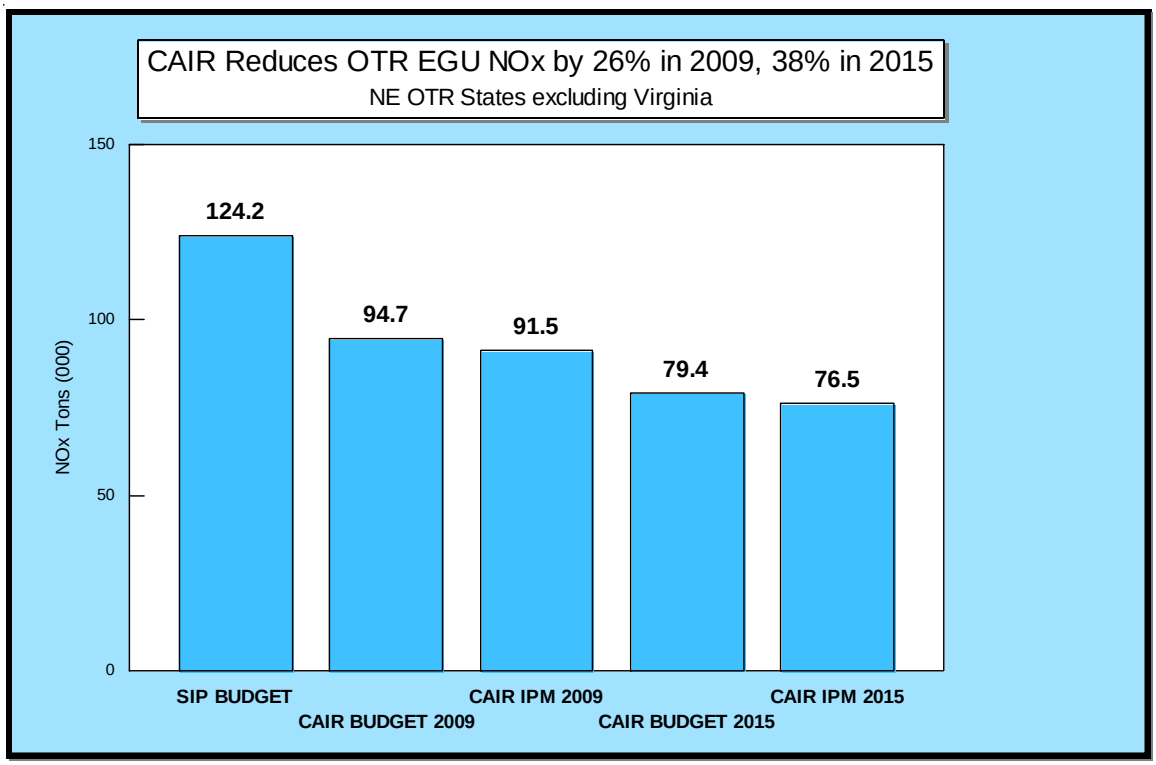
The pattern is similar in Anne Arundel County. EGU sources in Maryland and adjacent states contribute only 6.3% of ozone on days exceeding the standard. On-road and non-road sources in Maryland and adjacent states represent 48% of ozone contributions.

EGU NOx emissions will be further reduced as a result of EPA's CAIR allocations

U.S. EPA substantially reduced OTR EGU seasonal SIP Call allocations in the final CAIR rule, due to the allocation of NOx allowances on a fuel-specific basis. The parties to these comments support EPA's use of fuel-specific allocation factors, because they more accurately reflect actual emission characteristics of different types of electric generation.

The effect of EPA's reallocation will be to reduce projected 2009 EGU NOx emissions in the OTR by 26% relative to SIP Call budget levels, as shown in Chart 6:

Chart 6



Source: U.S. EPA.

These additional seasonal NOx reductions will provide air quality benefits to OTR states. They also will serve to reduce further the ~6% in-state and adjacent state EGU contributions to ozone exceedances in the Northeast.

Options under consideration by the HEDD work group provide more effective alternatives to the NOx draft model rule

Modeling studies by New Jersey have identified emissions from local oil- and gas-fired peaking units as an important source of ozone precursor emissions during high-ozone episodes. These units tend to operate on hot days when peak electric demands are greatest.

In recognition of the potential air quality improvements from reducing ozone precursor emissions on high demand days, OTC convened a High-Energy Demand Day (HEDD) work group in 2006 to explore control options ranging from demand-side management initiatives to the reallocation of CAIR NOx allowances to cover a broader array of sources. Descriptions of several options under consideration by the HEDD group are attached to these comments.

These approaches - focused on reducing emissions that contribute directly to ozone levels exceeding the air quality standard - are more relevant to the OTC's efforts to achieve attainment than the proposed model rule for confiscation of EGU NOx allowances. The model rules would shift the geographic patterns of NOx emissions without necessarily providing air quality benefits in the I-95 Corridor. The OTC should analyze the potential emission reduction benefits of the alternative HEDD options, and model the air quality impacts of the most promising options. This modeling also should take into account the effects of the Northeast Regional Greenhouse Gas Initiative (RGGI), due to its likely impacts on the patterns of fossil generation within the OTR.

Conclusion

States in the Northeast OTR currently have among the highest electric rates in the nation. Low energy prices are a mainstay of economic development potential for the expansion of existing and attraction of new industries. Surrounded by states offering more competitive electric rates, the OTC is not in position to increase its generation costs without assurance that incremental compliance costs will ensure commensurate environmental benefits. The available modeling evidence suggests that the OTC's draft model rules would not provide any relief from the OTR's ozone nonattainment predicament, even if such controls were extended to all states east of the Mississippi River.

OTC's draft model rules seek to supplant the largest and costliest federal emissions control initiative ever undertaken by EPA without direct statutory authority. It invites a regional balkanization of the Clean Air Act, returning the nation to a patchwork quilt of state laws that existed prior to the 1970 Clean Air Act Amendments. The confiscation and retirement of emission allowances by Northeast states otherwise participating in the CAIR trading programs likely would lead to little more than a geographic redistribution of emissions, with additional controls applied far upwind.

For these reasons, the IBEW, UMWA, CEED and PCA regard the OTC's draft CAIR-Plus model rules as ill-advised. We respectfully urge OTC member states to insist that any OTC proposal to exceed CAIR requirements be scrutinized through updated economic analyses, and modeled to determine likely impacts on regional air quality. For the more urgent task of demonstrating ozone attainment, we recommend high priority modeling of the potential air quality benefits of options under consideration by the HEDD work group, and the development of an appropriate framework for implementing these options.

Attachment
Excerpts of HEDD Options

Pollution Control Capital Cost Recovery

Exelon.

- Prior to mandating pollution control technologies or outright replacement of CTs, the OTC should work with the Independent System Operators (ISOs) to ensure that there are mechanisms within their market rule structures to provide for an appropriate level of capital cost recovery related to pollution control equipment at existing combustion turbines (CTs) and/or replacement of existing CTs with dry low NOx combustion technology (DLN) CTs.
- Mechanisms could take different forms, depending on each ISOs existing, and evolving, market structures. Additionally, since the rules in the ISOs vary by region, it may be that some ISOs have sufficient structures in place or are currently working to establish sufficient structures (such as capacity payment reform that is occurring in PJM and New England).
- Objectives: 1) ensure system reliability is maintained; 2) provide for reasonable, appropriate level of capital cost recovery.

Pollution Control Capital Cost Recovery (p. 2)

Exelon.

Issues to Consider

- Universe of electric generating units (EGUs) to address. Consideration of unit design and operating hours.
- Form of capital cost recovery: capacity payments, energy bids, other payment structures.
- Ensuring system reliability.
- Minimizing costs to consumers.
- Coordination of timing with OTC and ozone attainment schedules.
- Long lead times are required for major capital stock turnover, particularly "across the board" mandates.
- Appropriate balance of costs and environmental benefits.
  - Water injection roughly $750K per CT.
  - New CTs +/- $500 kW (+/- $500 million per 1,000 MW replaced).

Increased NOx Allowance Surrender Ratio for Uncontrolled CTs

Exelon

CAIR-Affected EGU CTs >= 25 MW in full OTR
(preferably all 25 CAIR states regulated for ozone season NOx)

- Dry Low NOx (DLN) and controlled CTs surrender at 1:1 ratio of allowances to emissions.
  - Controlled CT defined as meeting one or more of the following requirements:

    1. Emission rate is at, or below its state NOx RACT emission limit;
    2. Operating hours are limited under its state NOx RACT program;
    3. Combustion controls such as water injection utilized;
    4. Post-combustion controls utilized.

- Uncontrolled CTs surrender at a 2:1 ratio.
- Require that current ozone season NOx allowances are used.

- Objectives: 1) re-order CT dispatch stack so that controlled CTs run first by increasing variable cost of uncontrolled units (increased costs scale to emissions and emission rates); 2) encourage higher capacity factor CTs to install controls; 3) reduce potential system reliability risk of across the board mandates.

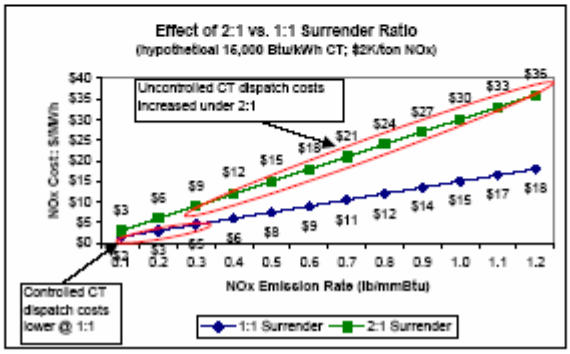
- Issues: 1) Need analysis of how dispatch stack re-ordered (nodal modeling?); 2) agreement on: definition of controlled CT, references to state NOx RACT programs, geography, inclusion of non-CAIR industrial units, etcetera.

Increased NOx Allowance Surrender Ratio for Uncontrolled CTs (p. 2)

Exelon

Non-CAIR Affected EGU CTs <25 MW in full OTR.
(preferably all 25 CAIR states regulated for ozone season NOx)

- "Actual" to "allowable" test utilizing emission limits in existing, or to be developed, state regulations that address units < 25MW.
- Controlled CTs surrender allowances equal to amount actual over allowable. Uncontrolled CTs surrender allowances equal to two times the amount that actual emissions are over allowable emissions.
- Require that current ozone season NOx allowances are used.
- Exemption for low capacity factor CTs.



Reliant Energy Allowance Surrender Proposal

- All CAIR affected EGUs
- All non-CAIR affected EGUs **and** other electric generation units
- Surrender CAIR ozone season NOx allowances
- Only current vintage ozone season NOx allowances allowed

Allowance Surrender Ratio

- "Inner Zone" units
  - Controlled units surrender at a 1:1 ratio
  - Uncontrolled units surrender at a 2:1 ratio
- "Outer Zone" units
  - All units surrender at a 1:1 ratio

Option Overview

- **Option** – Replace or Repower existing Load Following and/or Peaking Units with new Fast Start Units.
  - NESCAUM report from June 2006 shows New England NOx emissions from LFUs increase as ambient temperature increases.
  - New Units to be covered by a long-term, project financeable, Purchase Power Agreement (PPA) with state agency or LSE or ISO sponsored auction.
  - New Units will decrease dependence on existing units.
  - Make way for existing unit retirements upon coordination with regional ISO and commissions.

Option - Benefits

- Benefits of the Option are four-fold
  - **Environmental** – New Units have a lower NOx rate than existing LFU and will emit fewer tons on High Electric Demand Days. New Units will have SCR (~3 ppm NOx) and shorter start-up and minimum run times.
  - **Reliability** – New Units have greater operational flexibility and ability to respond to system contingencies.
  - **Fuel Diversity** – Opportunity to introduce alternate fuel on existing sites providing fuel diversity for the region.
  - **Cost** – New Units would be more fuel efficient and more appropriate for peaking service reducing total generation costs.

A Proposal

- Implement the HEDD Initiative through a formal, but voluntary partnership
- Include the partnership as a creditable element of the SIP
- The Initiative may include multiple "programs" and include voluntary and incentive-based efforts
  - There may also be a regulatory component

How Would This Work?

- EPA has pushed forward with a variety of policies that allow non-traditional programs to be "credited" in SIPs
  - Voluntary, incentive-based, education driven, etc.
- EPA has also expanded the use of "Weight of Evidence" as part of the attainment demonstrations
- The HEDD Partnership could fit into either of these options