

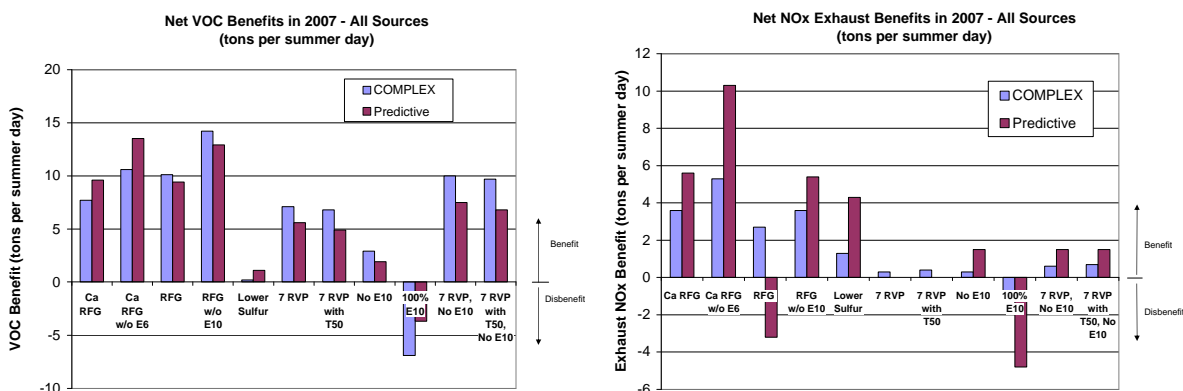
Summary: Regional Air Quality Workshop

On March 8-9, 2005, the Lake Michigan Air Directors Consortium (LADCI) hosted a 2-day workshop in Rosemont, IL. The purpose of the workshop were to: (1) continue regional collaboration between State/Local agencies and stakeholders on two important control strategy issues - fuels and electrical generating units (EGUs), (2) hear about the results of recent studies, including the SEMCOG's fuels study, API's fuels implementation analysis, LADCO's air quality analyses, and recent IPM modeling, and (3) identify appropriate next steps for developing regional control plans for ozone and fine particles. A summary of the workshop is provided below.

March 8

The first day was devoted to fuels. Frank Acevedo (USEPA, Region V) began the session with a discussion of the federal preemption requirements for fuels in section 211(c) of the Clean Air Act. Based on these requirements, a waiver is necessary, if we wish to set to pursue a control program for fuels.

Tom Darlington (Air Improvement Resource) reviewed his recent report on gasoline and diesel fuel options for southeast Michigan. Gasoline options included federal reformulated gasoline (RFG), California RFG, and lower Reid Vapor Pressure (RVP) gasoline, and diesel options included biodiesel, California diesel, and cetane program. The analysis addressed permeation effects due to ethanol. The net VOC and NO_x benefits in 2007 for the gasoline options are shown in the figures below.



Mike Koerber (LADCO) provided an update on the regional modeling, including the results of a preliminary sensitivity analysis for RFG and low RFP gasoline. Two key findings were noted: (1) "on the books" and "on the way" (Clean Air Interstate Rule [CAIR]) controls are expected to improve ozone and PM_{2.5} air quality across the region, but will not be enough to provide for attainment everywhere (i.e., additional emission reductions are needed), and (2) the fuel sensitivity analysis showed similar ozone benefits for RFG and low RVP (7.0) gasoline.

Mike Leister (Marathon Oil) discussed a draft report by MathPro on supply and distribution issues. MathPro examined a possible scenario in which each 8-hour ozone nonattainment area would opt for the next most stringent fuel. A final report is expected soon.

Julie Magee (USEPA, Region V) reviewed USEPA's Midwest Diesel Initiative, which seeks to reduce diesel emissions in the Midwest by leveraging resources, accelerating the market for

clean diesel technologies and fuels, and encouraging early adoption of technologies and practices.

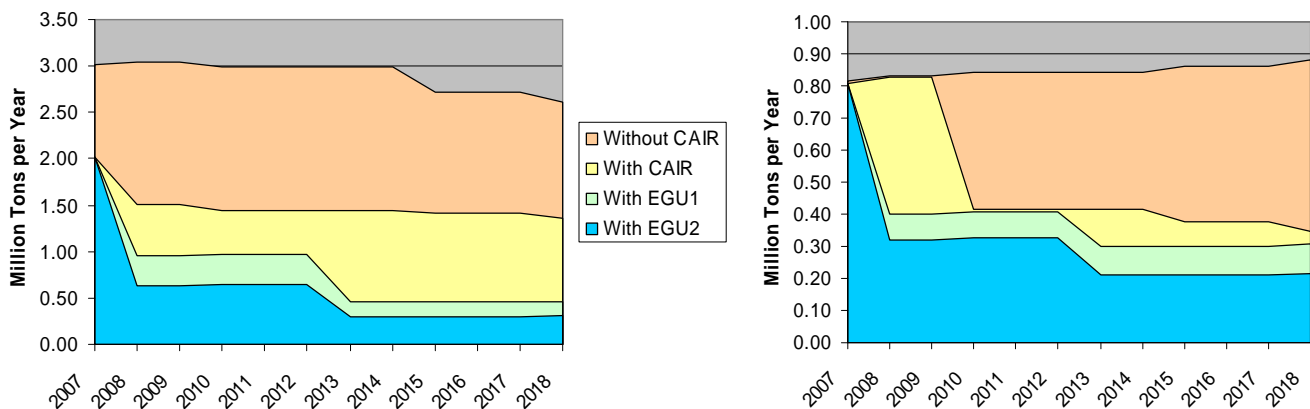
These presentations were followed by an open discussion. Chuck Hersey (SEMCOG) noted that Michigan needs to present its ozone control program for the Detroit area to USEPA in June and that this program is likely to address fuels. Kathy Watson (Indiana DEM) said that the Indianapolis area is also evaluating candidate control measures, including fuels. Several questions were raised which will need to be answered as SIP planning continues: What are the attainment goals for the region (i.e., how much emission reduction is needed)? What is necessary to get a preemption waiver? What methodology should be used to estimate the emission reductions for fuel options for both on-road and off-road sources?

The next steps for fuels include the State Air Directors discussing whether there is interesting in pursuing a regional fuels strategy and if so, then deciding on the elements of the strategy and on the additional regional and local analyses. Continued discussion with all parties through future workshops or meetings is important.

March 9

The second day was devoted to electric generating units (EGUs). Sam Napolitano (USEPA, Clean Air Markets Division) began the session with a review of USEPA rules for power plants. He talked about the proposed CAIR rule (note: this rule was finalized by USEPA the next day – on March 10), the proposed mercury rule, the proposed BART rule, and NSR.

Ed Sabo (MACTEC) then discussed the interim white paper for EGUs (see http://www.ladco.org/reports/rpo/Regional%20Air%20Quality/WP_EGU_Version_31.pdf). He provided an overview of all the candidate control measures for SO₂, NO_x, and VOC and then summarized the basis for the two EGU candidate measures – a retrofit BACT level (EGU1) and a BACT level for new plants (EGU2). The figures below show the projected SO₂ (left) and NO_x (right) emissions for the 5-state region for various EGU control programs.



Mike Koerber (LADCO) provided an update on the regional modeling, including the results of several sensitivity analyses, which included EGU1 and EGU2. Two key findings were noted: (1) “on the books” and “on the way” (Clean Air Interstate Rule [CAIR]) controls are expected to improve ozone and PM_{2.5} air quality across the region, but will not be enough to provide for attainment everywhere (i.e., additional emission reductions are needed), and (2) the sensitivity analyses showed that EGU1 and EGU2 provide a meaningful reduction in future year design

values (e.g., the future year PM2.5 design values with CAIR for many areas are within 1 ug/m³ of the current annual standard, which is the approximate amount of improvement associated with EGU1 in the 5-state region).

Jim Marchetti, representing the Midwest Ozone Group and EPRI, presented an evaluation of the compliance and marginal costs for CAIR and five SO₂-NO_x control scenarios for the year 2013, including the two EGU candidate measures in the interim white paper:

Scenario	NO _x (lbs/MMBTU)	SO ₂ (lbs/MMBTU)
CAIR	0.152	0.41
“One”	0.125	0.35
“Two”	0.125	0.25
“Three”	0.12	0.20
EGU1	0.10	0.15
EGU2	0.07	0.10

His analysis relied on an emissions-economic model, which provides a least cost solution for a specific utility system under a specific regulatory regime. The estimated marginal costs in 2013 for SO₂ are consistent with those in the interim white paper (i.e., about \$2,300-2,500/ton for EGU1 and about \$3,000-3,300/ton for EGU2), but are higher for NO_x (i.e., \$3,300 v. 1,800 for EGU1 and >\$5,000 v. 2,100 for EGU2). He also questioned whether the controls could be installed by 2009. A final report is expected soon.

Gene Trisko, representing CEED, presented an analysis of coal-fired power plants in the 5-state region, which are BART-eligible. Key points in his presentation included: (1) in the 5-state region, there are 340 coal-fired units (81.2 GW capacity), of which 122 units (41.6 GW) are BART-eligible and 20 units (8.4 GW) have scrubbers, (2) ½ of the BART-eligible non-FGD units (i.e., 51 of 102) are < 300 MW and have “poor retrofit economics”, and (3) EGU1 and EGU2 emission limits “threaten” reliability. He called for a broader menu of control options, an assessment of costs, electric rates, and reliability, and consideration of the cost-effectiveness of controls on all sectors.

These presentations were followed by an open discussion. Among the issues that were raised were construction schedules for EGU controls, consideration of reliability, cost effectiveness (i.e., see USEPA’s “model” in the NO_x SIP call), and the ability for trading. Continued discussion with all parties through future workshops or meetings is important.

There were also two presentations on the Integrated Planning Model (IPM), which is being used to provide cost and future year emissions information for EGUs. Mike Koerber described the work done to date between the Midwest RPO and VISTAS to run IPM, and then Dan Weiss (Cinergy) reviewed some of the key assumptions in the model. Mike Koerber noted that another round of IPM modeling (with VISTAS) is planned for May. In preparation for that modeling, LADCO and VISTAS have asked their states and stakeholders to review and comment on the IPM data inputs and some of the model assumptions. To help with that review, LADCO is hosting a “get smart” workshop on March 10. A memo was sent out by LADCO on March 8 outlining the comment process (see “Comments for the Round 2 VISTAS/MWRPO IPM runs”).

Another open session was held at the end of the day. Laurel Kroack (Illinois EPA) talked about a regional emission reduction initiative being considered through the Midwest Governors Association. This initiative was recently announced by Governor Blagojevich of Illinois, and will be discussed further through various forums.