

MANE-VU/MRPO Consultation Meeting
August 6, 2007
Rosemont, IL

On Monday, August 6, 2007, the Mid-Atlantic/Northeast Visibility Union (MANE-VU) Class I states (Maine, Vermont, New Hampshire, and New Jersey) held a consultation with several of the Midwest Regional Planning Organization (MRPO) states (Illinois, Indiana, Ohio, Michigan and Wisconsin). The following summary documents the discussions that took place during the consultation.

Summary of Today's Consultation Agreements

1. Define next steps for multi-pollutant approach to reduce regional haze, PM 2.5, and ozone
2. Discuss crafting a revised national ask among interested MANE-VU and MRPO states regarding needs for national action on EGUs, including potential multi-pollutant control levels for CAIR Phase III with emission rates and output-based options;
3. Pursue discussions on options for reducing SO₂ (and NO_x) emissions from ICI boilers, including:
 - Reconvening the MANE-VU/MRPO ICI boiler workgroup to re-examine the workgroup's January 2007 straw proposal;
 - Developing a process for sharing information on SO₂ RACT for ICI boilers, and examining potential SO₂ control measures;
 - Contacting NACAA regarding expansion of the Boiler MACT model rule work to address SO₂ and NO_x; and
 - Discuss crafting a national ask among interested MANE-VU and MRPO states regarding national action on ICI boilers.
4. Discuss crafting a national ask regarding low sulfur fuel for all off-road sources, and share information on biodiesel.
5. Continue to share modeling assumptions and analyses, and continue dialogue between MANE-VU and MRPO states regarding SIP submittals.
6. Define next steps to gather information on controls for locomotives and ocean-going vessels.
7. Develop list of controls for units that will be scrubbed, not just MANE-VU's list of 167 stacks.

Attendees

States and Tribes

FLMs and EPA

<u>Maine</u> – Dave Littell, Jeff Crawford	<u>National Park Service</u> – Bruce Polkowsky
<u>New Hampshire</u> – Tom Burack, Bob Scott	<u>Forest Service</u> – Anne Mebane, Chuck Sams, Rich Fisher
<u>New Jersey</u> – Chris Salmi	<u>Fish and Wildlife Service</u> – Tim Allen
<u>Vermont</u> –Justin Johnson, Dick Valentinetti, Paul Wishinski	<u>EPA Region I</u> – Anne Arnold
<u>Illinois</u> – Laurel Kroack, Scott Leopold	<u>EPA Region II</u> – Bob Kelly
<u>Indiana</u> – Tom Easterly, Ken Ritter	<u>EPA Region III</u> (by phone) – Ellen Wentworth, Neil Bigioni
<u>Ohio</u> – Bob Hodanbosi	<u>EPA Region V</u> – John Summerhays
<u>Michigan</u> – Vince Hellwig, Cindy Hodges, Bob Irvine	<u>EPA – OAQPS</u> (by phone) – Todd Hawes, Michelle Notarianni
<u>Wisconsin</u> – Larry Bruss	
<u>MRPO</u> – Mike Koerber	
<u>MANE-VU</u> – Anna Garcia, Doug Austin	
<u>MARAMA</u> – Susan Wierman, Julie McDill	
<u>NESCAUM</u> – Gary Kleiman	

Consultation Meeting Presentations and Discussions

Welcome and Introductions – Goals for Today’s Meeting - David Littell, Maine DEP

- Presented goals for today’s consultation:
 - Review requirements, resources and critical timing issues to ensure all share a common understanding;
 - Discuss options for control measures to identify what is reasonable for joint work between regions;
 - Identify impediments to implementing control measures and discuss how to address them;
 - Identify links between haze and PM that help define what is reasonable;
 - Examine reasonable progress for MRPO and MANE-VU Class I areas in terms of control measure options; and
 - Summarize points of agreement and identify issues for follow-up consultation
- Compare our request for what we need in terms of reductions to improve visibility at our Class I areas with what the MRPO states have done to address their own Class I areas and regional haze/PM issues
- Find out how close we are, what gaps may still remain, and discuss how we may address them together.

Overview of Open Technical Call & Consultation Briefing Book – Anna Garcia, MANE-VU

- Open Technical Call discussions provided a good technical basis for today’s meeting.
- MANE-VU staff is developing draft documentation of the Open Call and of today’s discussions, and will circulate the drafts for comment and make the final documentation available to all states for use in their state implementation plans (SIPs).

Summary of Reasonable Progress Work and Development of “Asks” for MANE-VU Class I Areas – Chris Salmi, New Jersey DEP

Presentation:

- Provided a review of MANE-VU Class I states’ Resolution on Principles;
- Showed focus for MANE-VU is on sulfate reductions for the 2018 milestone;
- Gave an overview of MANE-VU’s four factor analysis;
- Outlined how MANE-VU Class I states developed the “asks” for the MANE-VU and MPRO regions;
- Provided a comparative analysis of the MANE-VU region “ask” with that of the MRPO “ask”;
- Outlined the specifics of each of the asks, including for MRPO:
 - Timely implementation of BART requirements;
 - A focused strategy for the electricity generating units (EGUs) comprising a 90% reduction of sulfate emissions from 2002 levels from 167 stacks that modeling indicates affect visibility impairment in MANE-VU Class I areas;
 - A 28% reduction from non-EGU sector emissions based on 2002 levels; and
 - Continued evaluation of other measures, including measures to reduce SO₂ and nitrogen oxide (NO_x) emissions from coal-burning facilities by 2018.
- Within MANE-VU, the Class I states have the following commitment:
 - Timely implementation of BART requirements;
 - A focused strategy for the electricity generating units (EGUs) comprising a 90% reduction of sulfate emissions from 2002 levels from 167 stacks that modeling indicates affect visibility impairment in MANE-VU Class I areas;
 - A low sulfur fuel oil strategy with different implementation timeframes for inner zone states versus outer zone states, that results in a 38% reduction from non-EGU sector emissions in the MANE-VU region; and
 - Continued evaluation of other measures, including measures including energy efficiency, alternative clean fuels and other measures to reduce SO₂ and nitrogen oxide (NO_x) emissions by 2018.
- Also outlined the national “ask” MANE-VU plans to make of the US EPA, for a Phase 3 of CAIR that reduces SO₂ by at least an additional 18%.
- From presentation, next steps are:
 - Consult within and outside MANE-VU about which control strategies are reasonable;
 - Open a dialogue with the USEPA concerning a possible Phase 3 of CAIR;
 - Define strategies to include in the final modeling;
 - Determine goals based on the final modeling;
 - SIPs are due 12/17/07;
 - Adopt enforceable emissions limits & compliance schedules; and

- Progress evaluation due in 5 years.

Discussion:

- *Question (Tom Easterly, Indiana):* Are there emission rate targets instead of a flat 90% reduction?
 - *Answer (Chris Salmi, New Jersey):* No, and no net reductions.
- *Question (Tom Easterly, Indiana):* Where do the emissions go?
 - *Answer (Gary Kleiman, NESCAUM):* MANE-VU EGU reduction on the order of 68,000 TPY would be “rearranged.” They are spread out between all EGUs proportionately, except for those in the 167 stacks, to maintain the cap.
- *Question (Tom Easterly, Indiana):* Did MANE-VU use the 0.5dV exemption threshold for BART sources?
 - *Answer (Gary Kleiman, NESCAUM):* MANE-VU did not exempt any BART sources from the BART determination process.
- *Question (Mike Koerber, MRPO):* What is the source of the MANE-VU numbers?
 - *Answer (Gary Kleiman, NESCAUM):* They are from MARAMA’s inventory work. National ask for EGU sector based on IPM results and increasing the SO₂ ratios.
- *Comment (Mike Koerber, MRPO):* The MANE-VU numbers are close to his, but we need to sync them up.
- *Comment (Tom Easterly, Indiana):* Companies make economic analyses for installation of controls and we keep changing the rules on them.
 - *Answer (Gary Kleiman, NESCAUM):* They are spread out between all EGUs proportionately, except for those in the 167 stacks, to maintain the cap.

Summary of Reasonable Progress Work for MRPO Class I Areas – Mike Koerber, MRPO

Presentation:

- MRPO results consistent with MANE-VU analyses.
- MRPO states still looking at strategies for their 4 northern Class I areas, nitrates a bigger share of visibility impairment, visibility impacts mostly from southerly transport.
- With OTB measures, we are above glide path in 2018 for all 4 Class I areas.
- Review of MRPO 5-Factor Analysis (including degree of visibility improvement) for reasonable progress.
- Review of new visibility metric of \$/dV improvement, additional control measures comparable in costs to existing OTB controls, most visibility improvement obtained from MRPO’s EGU1 (0.3dV) and EGU2 (0.4dV) strategies.
- MRPO analysis regional in nature, not a focused EGU strategy like MANE-VU due to different source / receptor relationships.
- Review of projected visibility levels, Seney above glide path in 2018, a lot more SO₂ will need to be “squeezed” out of the system to achieve 2064 natural conditions.
- Review of MRPO source apportionment analysis, MRPO contributes 10-15% of visibility impairment at Lye Brook in Vermont.
- Conclusions and key findings from MRPO analyses:
 - Many Class I areas in the eastern half of U.S. expected to be below the glide path in 2018 (with existing controls), including those in the Northeast;
 - Contribution analyses show closer states have larger impacts; and

- Regional emission reductions (in 2013-2018 timeframe), such as those identified in MANE-VU's June 2007 resolutions, may be necessary to meet reasonable progress goals in the MRPO Class I areas and provide for attainment of new tighter PM_{2.5} and possibly tighter ozone standards in the MRPO states.

Discussion:

- *Question (Tom Easterly, Indiana):* How do we deal with ammonia?
 - *Answer (Mike Koerber, MRPO):* EPA won't touch it and ammonia is included in the analyses for completeness.
- *Question (Jeff Crawford, Maine):* Are mobile measures included?
 - *Answer (Mike Koerber, MRPO):* Only bundled measures including chip reflash and diesel retrofits where the states are not preempted from doing such measures.
- *Question (Tom Easterly, Indiana):* Would a monthly electric bill of \$150 be doubled?
 - *Answer (Mike Koerber, MRPO):* Yes, at least doubled.
- *Question (Dave Littell, Maine):* Are ammonia controls from the agricultural sector assumed?
 - *Answer (Mike Koerber, MRPO):* Yes, assumes 10% ammonia reductions from best practices.
- *Question (Jeff Crawford, Maine):* How much of the ammonia comes from CAFOs versus fertilizer application?
 - *Answer (Mike Koerber, MRPO):* Two-thirds to three-quarters comes from CAFOs, but urban ammonia sources are also important.
- *Question (Tim Allen, F&W Service):* How much benefit is there from ammonia controls?
 - *Answer (Mike Koerber, MRPO):* The analysis shows that a 10% ammonia decrease that may be cost-effective will result in greater than a 0.10dV improvement.
- *Comment (Bruce Polkowsky, NPS):* 10% is a lot.
- *Comment (Larry Bruss, Wisconsin):* There is a lot of uncertainty when it comes to the effects of ammonia reductions.
- *Question (Doug Austin, MANE-VU):* Is the \$/dV analysis based on three states or nine?
 - *Answer (Mike Koerber, MRPO):* It is based on three states, and a nine-state analysis would be higher
- *Comment (Gary Kleiman, NESCAUM):* MANE-VU saw almost identical MRPO contributions in the 10-15% range.
- *Comment (Chris Salmi, New Jersey):* New Jersey is looking at performance standards for the 24-hour PM_{2.5} standard and a potentially tighter ozone standard.
- *Comment (Laurel Kroack, Illinois):* Illinois would be interested if New Jersey could share that information.

EPA and FLM Perspectives on RPGs and Reasonable Measures Work – Bruce Polkowsky, NPS; Chuck Sams, Forest Service; John Summerhays, EPA Region V; Todd Hawes, EPA - OAQPS

Bruce Polkowsky, National Park Service

- Tomorrow is the 30th anniversary of the passage of the 1977 Clean Air Act Amendments that enacted section 169A and established the regional haze program.

- The uniform progress line is “useful,” but the 4-Factor analyses are most important from FLM perspective.
- Don’t forget the 20% clean days reasonable progress goal (VISTAS getting 1 dv improvement).
- Are states being overly optimistic in their CAIR controls scenarios? Information coming in from states seems to be pointing to predicting a higher level of controls than what CAIR predicts.
- The location of controls is important for visibility as seen in the MANE-VU 167 stack analysis.
- The 2013 progress report is key, and it is important to know about new sources, too.
- PM 2.5, ozone and regional haze issues are all coming together in the 2013-2018 timeframe. The PM2.5 SIPs should take into account what the regional haze measures will achieve. Strategies should be coordinated to maximize their effectiveness for both regional haze, PM2.5, and ozone SIPs.
- The FLMs encourage states to be as detailed as possible in their regional haze SIPs, including dates, for control measure development. It is up to EPA through the approval and disapproval process as to how they will react to state promises to pursue control measures in the regional haze SIPs.

Chuck Sams, Forest Service

- There should be one hard copy of the regional haze SIP per FLM reviewer.
- The FLM goal is for comments back to the states 30 days before their public hearings.
- The FLMs need need the SIPs as soon as possible for their 60-day review.
- The FLMs would appreciate a summary sheet that provides a cross-reference as to when the specific items on their checklist can be found in the SIP.
- There is an FLM expectation for ongoing consultation.

John Summerhays, EPA Region V

- There are three main requirements of the Regional Haze Rule:
 - (1) Reasonable Progress – lots of questions about what conclusions and questions about what EPA will have as a requirement to the different scenarios;
 - (2) BART – haven’t seen much control taken on BART. EPA is thinking about how to ensure consistency in BART determinations by different states. EPA asks the RPOs to try to insure consistency across their states; and
 - (3) Consultations - RPOs have done valuable work in technical analyses and facilitating consultations.
- EPA appreciates being part of the current process and continuing that participation into the future.

Todd Hawes, EPA – OAQPS

- While EPA is not in a position to initiate consultations as required by the Regional Haze Rule, today’s meeting is a good representation of what they envisioned the consultation process would be.

- EPA is getting lots of questions from states about the regional haze SIPs. Some states are saying they are not going to set reasonable progress goals, while some say they are only going to do BART, use it for their reasonable progress goal with no analysis.
- EPA is legally bound and expecting full SIPs on 12/17/2007 that include all of the required elements. It is not acceptable for states to say they do not have the time or resources, or that the SIP cannot be done by December 17.
- The EPA lawyers are working on “what if” scenarios.

Discussion:

- *Question to FLMs and EPA (Dick Valentinetti):* Will the Federal agencies comment on the extent of agreement and disagreement on strategies?
 - *Answer (Bruce Polkowsky, NPS):* Yes, they will.
- *Comment (Tim Allen, F&W Service):* They will also be looking for regional consistency and that the various emission reductions for meeting the Class I reasonable progress goals are proportional between the states. They may comment more on any disagreements between RPOs.
- *Comment (Bruce Polkowsky, NPS):* The continuing consultation requirement is in 308(i)(4). The MANE-VU states have provided input on format and frequency. The monitoring aspects are crucial and especially important to consult about.
- *Question to EPA (Bruce Polkowsky, NPS):* The long-term strategy is a 10-year strategy from rule adoption, but are promises to look at reductions approvable?
 - *Answer (Todd Hawes, EPA):* Realistically, we have to see what comes in December. They realize that they will not get 100% approvable SIPs in December 2007 and will have to see then what they will do about it.
- *Comment (Bruce Polkowsky, NPS):* FLMs would rather have a SIP later that has all elements rather than one that is on time that does not.
- *Question to EPA (Susan Wierman, MARAMA):* Can EPA process the BART SIPs first to start BART clock?
 - *Answer (Todd Hawes, EPA):* Yes, they are discussing BART severability, and it would be easier to consider BART first if they get a complete SIP.
- *Comment (Susan Wierman, MARAMA):* Holding up BART approvals due to incompleteness of the rest of SIP would be unfortunate. Glad to hear EPA discussing this issue.
- *Comment (Todd Hawes, EPA):* They have 6 months to deem complete.
- *Question to MANE-VU (John Summerhays, EPA):* How are BART compliance dates set in M-V?
 - *Answer (Susan Wierman, MARAMA):* Some states are setting the date to be “as expeditiously as practicable.” The states need to be doing their best to get BART controls in place as we do not want a repeat of the NOx SIP call delays. The BART requirement is one of the best ways in the Clean Air Act for getting old facilities controlled.
- *Question to MRPO (Todd Hawes, EPA):* Can I get clarification on the \$/dV metric developed by MRPO? Is there any cost-effectiveness breakpoint?
 - *Answer (Mike Koerber, MRPO):* It is a reference point.
- *Question to EPA (Chris Salmi, New Jersey):* How will EPA react to inconsistencies between state SIPs?

- *Answer (Todd Hawes, EPA):* The rule says EPA is the arbiter of any disagreement and there is little guidance beyond that. EPA would lean heavily on consultation documentation, but EPA will ultimately have to decide.
- *Comment to EPA and FLMs (Chris Salmi, New Jersey):* It is one of the MANE-VU Class I States principles that the FLMs will help identify and EPA will act upon any inconsistencies.

Roundtable Discussion on Reasonable Progress Goals and Reasonable Measures

States continued the consultation with a roundtable discussion open on all issues raised during the Open Technical Call and this consultation meeting. Most of the discussion focused on the substance of the MANE-VU statements, or “asks” from the MRPO states and from the U.S. EPA.

ICI Boilers, MACT and NO_x/SO₂ RACT

During the Open Technical Call it was suggested that there may be an opportunity to examine the scope of the ICI boiler sector and potential emission reductions from that source category. Several states brought up the recent vacatur of the Boiler MACT in terms of the possibility for states to work together on this sector. NACAA is discussing with its members and the Ozone Transport Commission and Northeast States for Coordinated Air Use Management an effort to develop a Boiler MACT model rule. While for Boiler MACT this effort would focus on hazardous air pollutants (HAPs), including volatile organic compounds (VOCs), it may be possible to include in that project a parallel process to gather information on NO_x and SO₂ emissions from the boiler sector and develop options for control strategies, separate from the MACT levels.

MANE-VU states also inquired about what MRPO states are doing for PM 2.5 attainment. Many of the MRPO states are focusing on local sources for urban excess, and it appears that EPA is discouraging a focus on regional strategies. Illinois informed the group that it has a multi-pollutant agreement including scrubbers. Illinois also has a statewide NO_x RACT proposal with stringent levels and is working on SO₂ RACT, such as low sulfur diesel for non-road and refinery SO₂ reductions. These RACT proposals are working their way through Illinois’ regulatory processes, so they are not yet included in SIPs and are not reflected in MRPO’s modeling. Michigan may also look at statewide RACT under the new PM_{2.5} standard.

In addition to the work done by the ICI boiler workgroup, OTC has completed some regional inventory work on its ICI boilers and NESCAUM is completing a study on ICI boilers that was sponsored by EPA. All of this work can be included in the review of this sector.

Follow up items from this discussion include:

- Reconvene MANE-VU/MRPO ICI Workgroup that was initiated under the State Collaborative to re-examine ICI boiler work and define next steps;
- Contact NACAA about possible addition to Boiler MACT model rule work to examine potential for NO_x and SO₂ reductions and identify strategies; and

- Look at pursuing SO2 RACT regionally, as well as asking EPA again for an ICI national rule.

Low Sulfur Fuels

In addition to the low sulfur fuel measures that MANE-VU is pursuing, the states discussed other areas of opportunity for low-sulfur fuels, including nonroad low-sulfur diesel. Illinois indicated that they will be talking to their four refineries about non-road low-sulfur diesel. Michigan indicated that they are looking at a possible executive order mandating low-sulfur non-road diesel for state contracts. MRPO states also expressed interest in low-sulfur fuel for locomotives.

New Hampshire inquired as to whether the cost for biodiesel is similar to low-sulfur diesel, and suggested that we share information on biodiesel as an option. New Jersey expressed interest in ocean-going vessels as a source sector for low-sulfur fuel opportunities. The National Park Service folks indicated that there is a recent World Trade Organization agreement that could be of use in this regard, and that this is a sector that the VISTAS and WRAP states are also looking into.

Follow up items from this discussion include:

- Look at federal rules that are in the works for non-road, locomotive and marine engines to see if there are gaps or opportunities that MANE-VU and MRPO could explore together; and
- Share information on biodiesel as a low-sulfur fuel option.

State/Regional EGU Strategy

States discussed the EGU strategy proposed by the MANE-VU Class I areas, regarding a focus to pursue reductions of 90% or greater from the 167 stacks identified on the MANE-VU list. The MANE-VU states have agreed to pursue 90% EGU reductions and a low-sulfur fuel oil strategy. MRPO states will continue to examine what the potential for reductions are at these units, and provide information about which sources in their states are putting controls on, to better inform the process and our modeling. According to the information MRPO has at this time, over 70% of the emissions from the 167 stacks on the list will be scrubbed. The question remains whether that will be enough, or whether MRPO will still need to address the remaining 30% even if it has a very low impact. Another issue was raised regarding whether it would be acceptable for MRPO states to substitute reductions from the non-EGU sector that go beyond the 28% level for reductions that may not be obtainable in the EGU sector. MANE-VU states indicated that this would likely be acceptable, depending on the location and type of non-EGU source.

MANE-VU states raised the question as to whether the 70/30 split is the same for the rest of the EGUs, i.e. those in the MRPO region that are not part of the 167 stacks on the list. MRPO responded that they can get that information and provide it to MANE-VU. For example, IPM indicates that Rockport will be getting controls, while MRPO's information from the source is

that they will not. There is also a concern that cumulatively, the controls that the EGU sources say are going on will be larger than what is required by CAIR, i.e., it will not reflect reductions that will be “sold” on the trading market, or what units they will be sold to, to keep emissions at the CAIR budget level.

Another concern was raised regarding the addition of controls to older EGUs and how they can be permitted given NSR issues for increases in other emissions. Some states responded that it has been possible to add scrubbers to older units and address increases in other emissions by fine-tuning the control systems.

Generally, while the concept is feasible, MRPO states anticipate needing more assistance and information from the MANE-VU Class I areas to understand the justification for controls on these units. In addition, it will be helpful to look at ways to incentivize the retirement/closing of old units and their replacement with cleaner technology, such as through output-based standards. We will also need to work together to craft language that will work in our SIPs to reflect the approach that MANE-VU is requesting that will be acceptable to EPA.

Follow up items from this discussion include:

- Continue to share specific information about what MANE-VU and MRPO sources are anticipating as controls on EGUs as compared to what is indicated in IPM modeling;
- Update our inventories and databases accordingly so that our information is “synched”; and
- Continue dialogue on approaches for addressing this sector to meet the 90% reduction target for the 167 stacks and on equivalent alternatives.

National “Ask” for CAIR Phase III

There is interest from some MRPO states in joining MANE-VU in its “ask” for a Phase III of CAIR. All of the MRPO states will review and consider the option as we continue our consultation process. For many MRPO states the real concern is obtaining PM 2.5 reductions; regional haze is not their primary concern. As we continue to discuss the national “ask” we need to develop control levels that will help all of our states with attainment for ozone, PM and regional haze. MANE-VU based its request on the recent IPM modeling work done on the levels that came out of the state collaborative work. Those levels are not as stringent as those that are in the original OTC multi-pollutant position, and we are in the process of reviewing them.

Follow up items from this discussion include:

- MANE-VU to revisit its multi-pollutant strategy;
- MRPO and MANE-VU to have discussions on potential multi-pollutant control levels for a CAIR Phase III; and
- Craft a revised national “ask” to reflect revised levels, as appropriate.

NEXT STEPS

In addition to the agreements reached during the discussions (listed at the beginning and in the roundtable discussion sections of this document) the MANE-VU Class I states and the

MRPO states agreed to continue the consultation dialogue on the upcoming State Collaborative call, scheduled for 10:00 am CDT, 11:00 am EDT on Thursday, August 16th. The states will continue discussions from today's meeting, bring forth additional issues as necessary, and have a first opportunity to review and discuss the draft documentation of the consultation.