Appendix 3C

MANE-VU Consultation Notes

MANE-VU Class I States' Consultation
Open Technical Call Summary
July 19, 2007

Introduction & Purpose of Call (A. Garcia, MANE-VU)

Anna Garcia opened the call at 10 am (EDT) with a welcome and roll call by all 3 RPOs (see attached list of participants). She then reviewed the purpose of today's call, including:

After asking for general questions about the agenda and call purpose, the MANE- VU representatives began the substance of the call with an overview of the technical work to be discussed as organized in the MANE-VU briefing books provided for the call.

MANE-VU Contribution Assessment (G. Kleiman, NESCAUM)

Gary Kleiman provided a brief summary of the contribution assessment work that MANE-VU conducted to help them determine which states the Class I states would request be involved in consultation (see Tabs 4 & 5 of briefing book).

Discussion:

- M. Koerber (MRPO): Requested documentation of 2018 projections – MANE-VU work seems consistent with MRPO analyses. Also, it looks as if the Northeast states will be below the glide path for uniform progress by 2018.
- G. Kleiman (NESCAUM): There seems to be pretty good consistency across all the RPOs in terms of their modeling work. Also, VISTAS new emission inventory with GA reductions is not in the MANE-VU modeling. It also includes MANE-VU's 500 ppm low sulfur fuel strategy, but not the 15 ppm level.
- R. Papalski (NJ): So the modeling does take into account 500 ppm sulfur fuel oil?
- G. Kleiman (NESCAUM): Yes, and that is significant (not including VT or DE).
- M. Koerber (MRPO): I notice that in 2018 organic carbon is more significant, and may be as significant as sulfate. This issue is very complex, especially in urban areas. Where is MANE-VU's organic carbon coming from? MRPO will be interested in what our control measures analysis says for organic carbon.
- G. Kleiman (NESCAUM): There is some uncertainty with regard to what the modeling is indicating about organic carbon in 2018 – that is why MANE-VU is focusing on sulfate now.
- P. Wishinski (VT): Sulfate dominates extinction. Organic carbon does not contribute as much to extinction as sulfate in the MANE-VU region.
- P. Brewer (VISTAS): After discussion with Gary at MARAMA Science Meeting, our approach was more understandable.
- B. Lopez (WI): This work was based on IPM 2.1.9 – what is expected if put in context of EPA's IPM 3.0 runs?

- S. Wierman (MARAMA): IPM 3.0 results were not available at the time this analysis was done, so we used 2.1.9 with updated gas curves.
- L. Nixon (NH): On state by state basis sulfur levels from EPA 3.0 model runs. Liz, took a quick look at 3.0 and same SO_4 increases that look problematical.

MANE-VU Reasonable Progress Project Summary (S. Wierman, MARAMA)

Susan Wierman provided a brief summary of the reasonable progress work that MANE-VU conducted to help them develop long-term strategies and control measures for the 2018 state implementation plans(see Tab 7 – A, B and C - of briefing book).

Discussion:

- J. Hornback (SESARM): Are costs in 1999 dollars? If so, how do they compare in current dollars?
- S. Wierman (MARAMA): Yes, these are reflected in 1999 dollars. If converted to 2006 dollars the cost figures would be higher – multiply 1999 by 1.186 to go from 1999 $ to 2006 $.
- D. MacLeod (VA): Regarding the MANE-VU statement, how would disagreements between a Class I State and a non MANE-VU state be handled in the SIP?
- A. Garcia (MANE-VU): The statements that MANE-VU issued are the request for the kinds of measures that our Class I states believe are needed based on the technical work we have done. In the consultations these requests are a starting point for discussion, and provide a basis for looking at the work the other RPOs have done in comparison to our work to determine what may be needed and is reasonable. According to the rule, the consultations are not expected to result in agreement on everything, but the areas of agreement and disagreement that occur via consultation are to be documented in the SIP.
- J. Johnson (GA): Regarding EGUs, is there a relationship between what is on pages 68-78 and CAIR+? And does MANE-VU have any idea of what level of reductions would result from CAIR+?
- S. Wierman (MARAMA): We have not done an analysis of CAIR+ and its impact on visibility. Impact on visibility is not one of the 4 factors and so is not applicable.
- M. Koerber (MRPO): Isn't there a 5th factor in guidance - $/deciview ?
- S.Wierman (MARAMA) – EPA expects that we will look at visibility improvement, but still not a factor regarding reasonableness. MANE-VU is planning on looking at visibility improvement of the control measurse we initially looked at as reasonable.
- S. Holman (NC): Modeling on visibility – are you doing CMAQ modeling for 2018? Or CALPUFF?
- G. Kleiman (NESCAUM): We are doing a CMAQ sensitivity run –not a full annual run, but for select periods, with tagging mechanism for different control measures.
- S. Holman (NC): In NC, 11 of 12 EGUs will have scrubbers - need to reflect units that have scrubbers on in VISTAS base G.

MANE-VU Long-Term Strategy/Statements

As discussions proceeded after the reasonable progress overview, participants began to ask questions about the MANE-VU resolution and statements (see Tab 3 of briefing book). These documents outline how MANE-VU is approaching the consultation process and a request that states pursue strategies in various sectors that MANE-VU believes are needed for its Class I areas, as a starting point for consultation discussions.

Discussion:

- F. Durham (WV): Regarding the low sulfur fuel strategy, will regulatory impact analyses for this measure be done on state or regional basis?
- G.Kleiman (NESCAUM), S.Wierman (MARAMA) & Ray Papalski (NJ): That will be done on state basis, but with coordination across the MANE-VU states. NJ will be doing an analysis, but there is also a federal role in terms of any national rulemakings that may happen on low sulfur fuel.
- J. Johnston (GA): What is the basis for saying that the low sulfur fuel strategy is reasonable for States outside MANE-VU?
- G. Kleiman (NESCAUM), S. Wierman (MARAMA), A.Garcia (MANE-VU): Actually the Class I states are looking for equivalent reductions to what they are doing in the low sulfur fuel strategy – not necessarily expecting that MRPO and VISTAS states will pursue a low sulfur fuel strategy. We are asking you to look at what is reasonable in terms of making equivalent reductions, which is the point of having the consultations. We know the MRPO and VISTAS states are looking at reasonable measures for your own Class I areas. During the consultation we anticipate comparing what you are looking at as reasonable with what we are requesting as a starting point for what is "potentially" reasonable.
- J. Johnston (GA): Is there flexibility to get more reductions from EGUs and fewer reductions from non-EGUs? What if, for example, we get more sulfate reductions from EGU sources equivalent to the amount of non-EGU MANE-VU reductions?
- P.Wishinski (VT), A. Garcia (MANE-VU): VT would support that kind of alternative. MANE-VU does envision that flexibility in our consultation discussions.
- M. Koerber (MRPO): An issue they have been looking at is actually setting a reasonable progress goal - what is MANE-VU's process for that?
- G. Kleiman (NESCAUM), A. Garcia (MANE-VU): A deciview number will come out of our CMAQ sensitivity runs, and agreed-to reductions after consultations, with full CMAC run. There may still be some overlap between what may and may not be agreed to and what the Class I states want to include as reasonable in CMAQ final run.
- M. Koerber (MRPO): There are very different EGU predictions between IPM 2.1.9, IPM 3.0, and what his states say will actually happen. Will it be possible to have further discussions after August 6th and August 20th consultations to refine and sync up EGU reductions and possible modeling run inputs?
- G. Kleiman (NESCAUM), A. Garcia (MANE-VU): It would be helpful for MRPO and VISTAS to share with us their information on their EGU inventory, so we can make sure our modeling for reasonable progress reflects their work and so that our states can understand what they will be doing. The in-person meetings are not the end of the consultation process. Our states are interested in having a continued dialogue, beyond the August in-person meetings.

- M. Koerber (MRPO): On page 61, is WI in or out? (in VT letter due to its CALPUFF runs)
- P. Wishinski (VT): VT CALPUFF modeling indicated that WI contributed >2% of emissions, so VT wants to include WI in consultation process, even though there are no WI EGUs on 167 list
- L. Bruss (WI): Please give him or Kevin Kessler a call (608) 266-0603
- D. Valentinetti (VT): We agree with Mike that this is an ongoing process for best science
- D. Andrews (KY): The two EGU modeling runs in the table of 167 stacks do not show much correlation – why?
- S. Wierman (MARAMA): Because the modeling for each of the different runs is based on different days, there were different meteorological inputs to each model and variability in wind fields (shows importance of meteorology).

MWRPO Overview (M. Koerber, LADCO)

- The MRPO states have moved ahead with some of their own state rules (consumer products, AIM, etc.). They also have PM SIPS to do.
- We updated our modeling to use 2005 as base year and made changes to IPM 3.0 based on what we know will actually happen – will be quite a bit different from 2.1.9 (not ready by Aug. 6th)
- Would hope modeling would form basis for a collaborative on future control strategies
- MRPO internal consultation process for the Northern Class I states has been ongoing for once a year – completed a great deal of technical work.
- Their reasonable progress project by EC/R is finished- provides a new metric - $/deciview. Looked at "5th Factor" for on-the-books controls as context for candidate measures. Examined similar strategies as those that MACTEC did for MARAMA analysis. Now completing report on "5th Factor" - will send out later.
- Requirement to address regional haze Class I areas in state and outside state. Have done more work on who is contributing. Will provide MRPO states with a list of who they impact.

<u>Discussion</u>:

- A. Garcia (MANE-VU): Will MRPO states be looking for any national measures?
- M. Koerber (MRPO): Our Class I areas are still above the glidepath, so may need some regional/national reductions. We are looking at that – may have something as develop, but will not have it by Aug. 6th. Note that MANE-VU sites are at uniform progress with control measures but MRPO states are above uniform line.
- D. Littell (ME): How much of the contribution at their Class I sites is coming from Canada?
- M. Koerber (MRPO): On the 20% worst days, the contributions are mainly from the south.
- A. Garcia (MANE-VU): Would it be possible to include Canada (primarily Ontario) at the August 6th consultation? They have expressed an interest, and our northern Class I states would like to invite them to hear our discussions.
- M.Koerber (MRPO): That would be ok.

VISTAS Overview (Pat Brewer, VISTAS)

- In VISTAS we the focus is on sulfate as well.
- Started with IPM 2.1.9 – in Base G, took account of results supplied by utilities – created hybrid between 2.1.9 and ground – truthing in summer 2006 (somewhere between versions 2.1.9 and 3.0) – pretty close to MV CAIR+ results. Base G2 has some changes in GA & FL
- See improvements at Southwest and Appalachian sites – mountain sites below the uniform progress line; less improvement at coastal sites – very close to uniform progress. Smaller reductions in units affecting relative reductions over whole year. GA and FL are working closely together on those sites.
- Distributed reasonable progress approach to stakeholders - looked at areas of influence.
- Reasonable progress analysis based on area of influence approach shows sulfate from EGUs and other sources dominated – most responses from sulfate reductions. When looking at areas of influence, we looked at their sulfate sources
- In modeling we included Brigatime and other sites
- Look at cost of controls, what are sulfate emissions after implementing the on-the-way controls. After 2018, EGUs still contribute 40% of emissions. Coal burning ICI boilers are the next largest at 20-30% of emissions, also a small percent from glass, pulp and paper, etc. Know by SEC code what kind of sources and costs of typical measures (AirControl.net). Will be using MARAMA 4- Factor analysis to inform their process.
- Delivered lists of sources in areas of influence in November. VISTAS states consultation occurred in December 2006 - agreed on approach to take on 4- Factor analysis. Got back together in May and repeated our process. Some states sent letters asking them to look at certain kinds of sources -- "tell us what you decide when you do your analysis of these sources on your Class I areas." Provided schedules on next steps of SIP process.
- VISTAS has interstate consultations going on in southern states - May 2007 consultation, too, plus June FLM/EPA meeting, intrastate consultations . Now consultation has started with MANE-VU
- FLM/EPA feedback is commitment to good mid-course review in 2012 to see where EGU reductions are actually occurring .

<u>Discussion</u>:

- S. Wierman (MARAMA): Please elaborate on your comment that IPM run with Base G are "close to" MANE-VU CAIR+ run?
- P. Brewer (VISTAS): There are similarities with MACTEC top 30 for VISTAS EGUs
- A. Garcia (MANE-VU): We/ MANE-VU received similar look-back comments from our FLMs
- J. Hornback (SESARM): Everyone should look at emissions reductions that are already in place. Substantial reductions have occurred already, not just what's going to occur in 2018. Benefits from additional controls for upcoming NAAQS will help regional haze, too – substantial reductions in the southeast.
- T. Allen (FWS): CAIR uncertainly can be addressed by communicating with EGUs and can include in SIP instead of waiting for look-back
- G. Kleiman (NESCAUM): IPM projections a moving target, but info on controls on 167 stacks important to bring to consultation – we may not be very far apart. Any information

that the RPOs and states can provide about controls on 167 Stacks would be very valuable. We also recognize that states are looking at their own measures. Any info on control measure decisions that you have made for your own sources may show we are closer - by August 6th and August 20th meeting.

- R. Papalski (NJ) Is the material from the VISTAS June meeting available?
- P. Brewer (VISTAS): Yes, all presentations from the June meeting are posted on VISTAS' website.
- J. Hornback (SESARM): More on 28% reduction – ICI sulfur goes up from 10% to 24% nationwide and could be possible national rule John H – 16% of sulfur from ICI boilers in 2002 up to 24% after CAIR. As we move into next round of fine particle work – ask whether we have enough info re ICI boilers. Impact, concern and what control options/cost are – talk to EPA? Uncontrolled/inadequately controlled sources
- A. Garcia (MANE-VU): Our states have done some work on ICI boilers and have some information developed already. We would be glad to work with MRPO and VISTAS on this issue.
- S. Wierman (MARAMA): It may be possible to include something on ICI boilers as a potential amendment to MANE-VU National ask statement. Might be possible for it to come out of consultations.
- J. Hornback (SESARM): We should continue to collect data and be ready to move forward.
- S. Wierman (MARAMA): We would appreciate feedback at the consultation on joining MANE-VU on its request for a Phase 3 CAIR

Comments from FLMs

- Pay attention to mid course review – look at where you will be in 2012 compared to where you expected to be.
- Regarding the 2012 look back – discussions of source can be helpful and included in this SIP, with recognition of uncertainty.

EPA

- John Summerhays (EPA Region 5) and Michelle Notariani (EPA/OAQPS), expressed their appreciation for being invited to participate on the call and on future consultations.

Outcomes & Next Steps

- R. Papalski (NJ): Asked that all RPOs bring a list of the 167 EGUs and any planned controls on those units to the August meeting.
- P. Wishinski (VT): To confirm, VT will be asking WI to participate in the August 6th meeting – will be calling WI to ask them to attend.
- A. Garcia (MANE-VU): Gave a brief overview of the upcoming consultation meetings on August 6th and 20th – asked for any further comments/changes to the agendas to be sent to her next week.
- T.Aburn (MD): Opportunity to work with EPA on CAIR "Phase 3" for 2018/2020 would be a great outcome of consultations – Ann, Strengthen numbers – Tad, can we talk about PM? Mike, very relevant and need to look ahead

Adjournment

Anna Garcia thanked everyone for their participation and promised to circulate a draft summary of the call for comment – asked that each RPO share their attendance lists for the open call all around via email. Information on this and other MANE-VU consultations will be posted on the consultation page of the MANE-VU website, www.manevu.org.

Attendees

MANE-VU

Affiliation	Name
Connecticut	Wendy Jacobs
Delaware	Jack Sipple
Maine	David Littell
Maine	Jeff Crawford
Maine	Tom Downs
Maryland	Tad Aburn
Maryland	Andy Hiltebridle
Massachusetts	Eileen Hiney
New Hampshire	Bob Scott
New Hampshire	Jeff Underhill
New Jersey	Chris Salmi
New Jersey	Ray Papalski
New Jersey	Sandy Krietzman
New York	Matt Reis
New York	Diana Rivenburgh
Penobscot Tribe	Bill Thompson
Vermont	Dick Valentinetti
Vermont	Paul Wishinski
MARAMA	Julie McDill
MARAMA	Susan Wierman
NESCAUM	Gary Kleiman
OTC	Doug Austin
OTC	Anna Garcia
EPA Region 1	Anne Arnold
EPA Region 1	Anne McWilliams
EPA Region 2	Bob Kelly
EPA Region 3	Ellen Wentworth
EPA Region 3	LaKeshia Robertson
FLM-NPS	Bruce Polkowsky
FLM-NPS	Holly Salazer
FLM-FWS	Tim Allen
FLM-FS	Ann Mebane

VISTAS

Georgia	Heather Abrams
Georgia	Jimmy Johnston
Kentucky	John Lyons
Kentucky	Diana Andrews
Kentucky	Lona Brewer
Kentucky	Martin Luther
North Carolina	Keith Overcash
North Carolina	Sheila Holman
North Carolina	Laura Booth
North Carolina	George Bridgers
South Carolina	Renee Shealy
South Carolina	John Glass
South Carolina	Maeve Mason
South Carolina	Stacey Gardner
Tennessee	Barry Stephens
Tennessee	Quincy Styke
Tennessee	Julie Aslinger
Virginia	Tom Ballou
Virginia	Doris MacLeod
Virginia	Mike Kiss
West Virginia	Fred Durham
West Virginia	Bob Betterton
West Virginia	Laura Crowder
EPA Region 4	Brenda Johnson
EPA OAQPS	Michele Notarianni
Metro 4/SESARM	John Hornback
VISTAS	Pat Brewer

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 NOx) 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 NOx; 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
Maine – Dave Littell, Jeff Crawford	**National Park Service** – Bruce Polkowsky
New Hampshire – Tom Burack, Bob Scott	**Forest Service** – Anne Mebane, Chuck Sams, Rich Fisher
New Jersey – Chris Salmi	**Fish and Wildlife Service** – Tim Allen
Vermont –Justin Johnson, Dick Valentinetti, Paul Wishinski	**EPA Region I** – Anne Arnold
Illinois – Laurel Kroack, Scott Leopold	**EPA Region II** – Bob Kelly
Indiana – Tom Easterly, Ken Ritter	**EPA Region III** (by phone) – Ellen Wentworth, Neil Bigioni
Ohio – Bob Hodanbosi	**EPA Region V** – John Summerhays
Michigan – Vince Hellwig, Cindy Hodges, Bob Irvine	**EPA – OAQPS** (by phone) – Todd Hawes, Michelle Notarianni
Wisconsin – Larry Bruss	
MRPO – Mike Koerber	
MANE-VU – Anna Garcia, Doug Austin	
MARAMA – Susan Wierman, Julie McDill	
NESCAUM – 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 (NOx) 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 (NOx) 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 PM2.5 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 PM2.5 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 analses 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.

<u>Chuck Sams, Forest Service</u>

- 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 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.

<u>John Summerhays, EPA Region V</u>

- 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.

<u>Todd Hawes, EPA – OAQPS</u>

- 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 NOx/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 NOx 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 NOx 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 PM2.5 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 NOx 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.

<u>Follow up items from this discussion include:</u>

- 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 iin 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.