

## **ATTACHMENT D**

### **Consultation Summaries and Other Documentation**

## Attachment D

- MANE-VU Draft Board Agenda
- Class I States Resolution
- MANE-VU VISTAS Consultation Meeting Agenda
- MANE-VU Class I States Consultation Appendix
- MANE-VU Non-Class I States Consultation Appendix
- MANE-VU Consultation Approach
- MANE-VU MRPO Consultation
- MANE-VU Class I States Consultation Call Agenda



**MANE-VU Board Meeting  
June 7, 2007**

**The Renaissance Providence Hotel  
5 Avenue of the Arts  
Providence, RI 02903 (401) 276-0010**

**DRAFT AGENDA**

2:00 PM	<b>Welcome and Introductions</b>	<i>David Littell, Incoming Chair, Commissioner ME DEP</i>
2:15 AM	<b>What We Know About Regional Haze in MANE-VU</b> <ul style="list-style-type: none"><li>○ Characterization of the Problem in the Region</li><li>○ Who's Contributing – Sources and Areas Affecting the MANE-VU Region</li></ul>	<i>Jeff Underhill, NH DEP</i>
2:30 PM	<b>What Can Be Done by 2018?</b> <ul style="list-style-type: none"><li>○ Overview of MANE-VU BART Approach</li> <li>○ What's Reasonable<ul style="list-style-type: none"><li>- Outcomes of the 4-Factor Analysis on Control Measures</li><li>- Analysis of CAIR vs. CAIR+ on Additional SO2 Reductions</li></ul></li></ul>	<i>MANE-VU Representative (tbd)</i>  <i>Chris Salmi, NJ DEP</i>
3:00 PM	<b>Comments from Stakeholders</b>	
3:15 PM	<b>Overview of MANE-VU Approach on Regional Haze</b> <ul style="list-style-type: none"><li>○ Next Steps for MANE-VU</li><li>○ Action Items</li></ul>	<i>David Littell, Incoming Chair, Commissioner ME DEP</i>
3:45 PM	<b>Summary and Close</b> <ul style="list-style-type: none"><li>○ Action – Approval of Minutes from 5/06 Meeting</li><li>○ Announcement of Next Chair and Vice Chair</li></ul>	<i>David Littell, ME Incoming Chair, Commissioner ME DEP</i>
4:15 PM	<b>Adjourn</b>	



**RESOLUTION OF THE COMMISSIONERS OF STATES WITH  
MANDATORY CLASS I FEDERAL AREAS WITHIN THE MID-  
ATLANTIC NORTHEAST VISIBILITY UNION (MANE-VU)  
REGARDING PRINCIPLES FOR IMPLEMENTING THE REGIONAL  
HAZE RULE**

**Members**

Connecticut  
Delaware  
District of Columbia  
Maine  
Maryland  
Massachusetts  
New Hampshire  
New Jersey  
New York  
Pennsylvania  
Penobscot Indian Nation  
Rhode Island  
St. Regis Mohawk Tribe  
Vermont

**Nonvoting Members**

U.S. Environmental  
Protection Agency  
National Park Service  
U.S. Fish and Wildlife  
Service  
U.S. Forest Service

**MANE-VU Class I Areas**

ACADIA NATIONAL PARK  
ME

BRIGANTINE WILDERNESS  
NJ

GREAT GULF WILDERNESS  
NH

LYE BROOK WILDERNESS  
VT

MOOSEHORN WILDERNESS  
ME

PRESIDENTIAL RANGE  
DRY RIVER WILDERNESS  
NH

ROOSEVELT CAMPOBELLO  
INTERNATIONAL PARK  
ME/NB, CANADA

- **WHEREAS** the Clean Air Act and EPA's Regional Haze Rules require all States to identify key sources of haze-causing air pollution, develop plans to reduce emissions from those sources, and submit those plans to EPA by December 2007; and
- **WHEREAS** pollutants that impair visibility also cause unhealthy levels of ozone and fine particle pollution, and both the types of emission sources and major individual emission sources that contribute to visibility impairment in mandatory Class I Federal areas also contribute to unhealthy levels of ozone and fine particle pollution in urban and suburban areas; and,
- **WHEREAS** implementing controls to improve visibility in national parks and wilderness areas that are mandatory Class I Federal areas will also improve air quality in areas that are not currently attaining the health-based standards for ozone and fine particle pollution; and,
- **WHEREAS** the Clean Air Scientific Advisory Committee (CASAC) and USEPA staff have recently reviewed the health protection adequacy of the fine particulate and ozone standards and recommended these standards be lowered to more protective levels, and that additional emission controls would be required in order to meet more stringent ambient air quality standards; and,
- **WHEREAS** all States are required to develop and submit State Implementation Plans (SIPs) to control fine particulates, ozone and Regional Haze with varying dates for attaining a health or welfare standard; and,

- Allow the regulated community to better plan for the future with greater certainty with regard to air pollution control measures and programs; and
- **WHEREAS** technical analysis conducted for MANE-VU has identified sulfur dioxide emissions from sources in twenty-three States in the eastern United States as contributing to visibility impairment in the baseline year of 2002 within the MANE-VU mandatory Class I Federal areas (see attached list); and,
- **WHEREAS** further technical analysis conducted for MANE-VU has identified sulfur dioxide emissions from stacks at key Electric Generating Units (EGUs) as the most significant source of sulfate at MANE-VU mandatory Class I Federal areas in the baseline year of 2002, and
- **WHEREAS** it is in the best interest of human health and the environment to achieve these reductions as soon as practicable and as required by the Regional Haze rule and Clean Air Act to meet the 2018 planning goal for regional haze:

**THEREFORE, be it resolved, that the Commissioners of the States with mandatory Class I Federal areas within MANE-VU will implement the regional haze rule in accordance with a set of principles that set forth a path for a) achieving reasonable progress toward preventing any future, and remedying any existing, impairment of visibility in mandatory Class I Federal areas, and b) leveraging the multi-pollutant benefits that such actions may provide for enhanced public health and environmental protection; and**

**FURTHERMORE, that the set of principles for implementing the regional haze rule includes the following:**

1. We will establish reasonable progress goals for the mandatory Class I Federal areas within our borders based upon an identification of existing sources affecting visibility, considering new, existing and planned emissions control measures, and reflecting the requisite 4-Factor Analysis conducted to determine reasonable measures that can be implemented by 2018; and these goals will achieve as much or more visibility improvement as would be achieved by the uniform rate of progress, and
2. We invite all States identified as contributing to visibility impairment (listed below) in MANE-VU mandatory Class I Federal areas to review specific proposed measures identified as reasonable according to the 4-factor analysis required by the Regional Haze Rule, and

3. We will ask all States identified as contributing to visibility impairment in MANE-VU mandatory Class I Federal areas to make timely emissions reductions consistent with measures determined to be reasonable through the consultation process; and
4. In setting our reasonable progress goals, we are assuming all measures determined to be reasonable by the Class I states are implemented in contributing states; and
5. Our reasonable progress goals will assume implementation of measures already deemed “reasonable” to meet other requirements of the Clean Air Act within the MANE-VU or Ozone Transport Commission States, and we will seek agreement from other contributing States and areas outside the OTC or MANE-VU regions to implement these measures as well; and
6. The invitation to contributing States to review the proposed reasonable measures includes an option of flexibility such that each contributing State could obtain its share of the emission reductions needed to meet the progress goals for the MANE-VU mandatory Class I Federal areas through implementation of other new or expanded rules or programs that will achieve a commensurate or equal level of emission reduction in their State and visibility benefit in the mandatory Class I Federal areas as would have been achieved through implementation of the reasonable measure in the same time frame requested by the MANE-VU States with mandatory Class I Federal areas, and
7. We call upon Federal Land Managers responsible for the air quality within our national parks and wilderness areas to identify any State’s Regional Haze SIP submittal that is inconsistent with the reasonable progress goals set by Class I States, and to express concerns in writing to the affected States and to EPA during the 60-day SIP review period required by the Regional Haze rule, and
8. We call upon the US EPA to act on any inconsistencies between the reasonable progress goals set by the States with mandatory Class I Federal areas and the Regional Haze SIPs of contributing States and to resolve these discrepancies prior to approving the affected States’ Regional Haze SIPs and to act on incomplete SIPs in the SIP review process, and
9. We will call upon the US EPA to implement any national or regional measures deemed “reasonable” through the consultation process through new or expanded federal rules, and
10. Through the consultation process, we will seek near-term commitments to implement new or expanded reasonable measures and long-term

resolve these discrepancies prior to approving the affected States' Regional Haze SIPs and to act on incomplete SIPs in the SIP review process, and

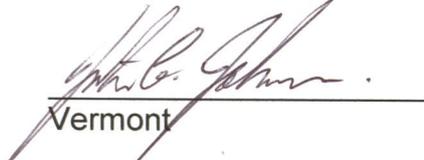
9. We will call upon the US EPA to implement any national or regional measures deemed "reasonable" through the consultation process through new or expanded federal rules, and
10. Through the consultation process, we will seek near-term commitments to implement new or expanded reasonable measures and long-term commitments in the 10 year or beyond time frame to reduce fine particle, nitrogen oxide, volatile organic compound and sulfur dioxide emissions, and
11. We commit to submitting the 5-year progress reports required by the Regional Haze rule as a revision to the initial SIP, and we will use these reports to review the status of measures committed to in initial SIPs, to address unresolved new control programs, to determine the availability and need for new reasonable measures and to adjust the Regional Haze SIP accordingly. The Class I states will rely on adequate Federal funding to comply with this Federal requirement.

Respectfully signed and committed,

The Commissioners of the States with mandatory Class I Federal areas in  
MANE-VU

  
New Hampshire

  
Maine

  
Vermont

  
New Jersey

States within MANE-VU and others Contributing at least 2% of Modeled Sulfate to 2002 Concentrations at MANE-VU mandatory Class I Federal areas

Maine  
New Hampshire  
Vermont  
Massachusetts  
Rhode Island  
Connecticut  
New York  
New Jersey  
Pennsylvania  
Delaware  
Maryland  
District of Columbia  
Michigan  
Illinois  
Indiana  
Ohio  
Wisconsin  
Kentucky  
West Virginia  
Virginia  
Tennessee  
North Carolina  
South Carolina  
Georgia

**DRAFT AGENDA**  
**MANE-VU Class I States' Consultation with VISTAS States**

- 1) **When:** 10:00 a.m., August 20, 2007
- 2) **Where:** Georgia Environmental Protection Division Training Room  
 4244 International Parkway, Suite 116, Atlanta, Georgia

10:00 am	Welcome & Introductions - Goals for Meeting	David Littell, ME DEP Chair, MANE-VU
10:15 am	Overview of July 19 Technical Conference Call and MANE-VU Consultation Briefing Book	Anna Garcia, OTC
10:30 am	Summary of Reasonable Progress Work for MANE-VU Class I Areas - Proposed request from MANE-VU Class I States for controls in the VISTAS region and from EPA - Where the MANE-VU reasonable progress goal (RPG) is in 2018	MANE-VU Class I State Representative
10:50 am	Clarifying Questions	All Participants
11:00 am	Summary of Reasonable Progress Work for VISTAS Class I Areas - Proposed request from VISTAS states for controls in the MANE-VU region - Where the VISTAS RPGs are in 2018	VISTAS Class I State Representative
11:50 am	Clarifying Questions	All Participants
12:00 pm	Working Lunch	
12:30 pm	FLM Perspectives on RPGs and Reasonable Measures Work	EPA and FLM Representatives
12:45 pm	EPA Perspectives on RPGs and Reasonable Measures Work	EPA and FLM Representatives
1:00 pm	Roundtable Discussion on Reasonable Progress Goals and Reasonable Measures	All Participants
2:30 pm	Preliminary Summary of Consultation Discussions - Areas with agreement - Areas with no agreement	
2:45 pm	Next Steps	
3:00 pm	End of Consultation	

## MANE-VU Consultation Appendix

### Summary of MANE-VU Class I States' Consultations

In 2007, New Hampshire provided other states in the Mid-Atlantic/Northeast Visibility Union (MANE-VU), Midwest Regional Planning Organization (MRPO) and Visibility Improvement State and Tribal Association of the Southeast (VISTAS) regions with the results of technical analyses that illustrated which states in those regions have emissions that are reasonably anticipated to contribute to impairment in one or more of New Hampshire's Class I areas, including Great Gulf Wilderness and Presidential Range - Dry River Wilderness. The New Hampshire Department of Environmental Services (NHDES) sent a letter to these contributing states, inviting them to participate in consultations with New Hampshire and the other Class I states in MANE-VU to discuss ideas on the types and amounts of emissions reductions that are reasonable and, therefore, necessary to achieve reasonable progress in improving visibility at New Hampshire's Class I areas. The consultation calls and meetings that New Hampshire engaged in with our counterparts in the MANE-VU, MWRPO, and VISTAS regions served as a platform for comparing technical work and findings, discussing any adjustments that might be appropriate, and developing mutually beneficial solutions.

Representatives from the MANE-VU states have been having discussions with the other regional planning organizations (RPOs) periodically since 2000 on technical information and analyses. The MANE-VU states established a more formal consultation process in 2007, beginning with an in-person meeting of the members in Washington, DC on March 1, 2007. At this meeting the states received information on the requirements of the regional haze rule and how to define reasonable progress in Class I areas. The states also discussed potential control options which, if determined to be reasonable, would be considered as part of the Class I states' long term strategy for making reasonable progress toward achieving natural conditions by 2064. This was followed by a second in-person consultation in Providence, RI on June 7, 2007. This second meeting comprised a review of technical analyses completed to date, discussion of a resolution outlining the principles the Class I states would be following in their consultations with contributing states, and examination of a set of statements developed by the Class I states outlining their requests for control measures to be pursued by contributing states, both in the MANE-VU region and outside of it, for the purpose of achieving reasonable progress in the MANE-VU Class I areas .

The MANE-VU Class I states made revisions to the resolution and statements as a result of the discussions that occurred at the June 7<sup>th</sup> meeting. The MANE-VU states then engaged in another consultation via conference call on June 20, 2007 to review the revised documents and vote on them. All member states on the consultation call voted to accept the resolution and statements, with the exception of New York and Vermont, who were unable to participate on the call. The MANE-VU executive staff followed up with both New York and Vermont by phone and email, and received their concurrence on the documents as well. Via the statement, the MANE-VU member states agreed to a course of action that includes pursuing the adoption and implementation of the following emission management strategies, as appropriate and necessary:

- timely implementation of BART requirements; and
- a low sulfur fuel oil strategy in the inner zone States (New Jersey, New York, Delaware and Pennsylvania, or portions thereof) to reduce the sulfur content of: distillate oil to 0.05% sulfur by weight (500 ppm) by no later than 2012, of #4 residual oil to 0.25% sulfur by weight by no later than

2012, of #6 residual oil to 0.3 – 0.5% sulfur by weight by no later than 2012, and to further reduce the sulfur content of distillate oil to 15 ppm by 2016; and

- a low sulfur fuel oil strategy in the outer zone States (the remainder of the MANE-VU region) to reduce the sulfur content of distillate oil to 0.05% sulfur by weight (500 ppm) by no later than 2014, of #4 residual oil to 0.25 – 0.5% sulfur by weight by no later than 2018, and of #6 residual oil to no greater than 0.5 % sulfur by weight by no later than 2018, and to further reduce the sulfur content of distillate oil to 15 ppm by 2018, depending on supply availability; and
- a 90% or greater reduction in sulfur dioxide (SO<sub>2</sub>) emissions from each of the electric generating unit (EGU) stacks identified by MANE-VU (Attachment 1- comprising a total of 167 stacks – dated June 20, 2007) as reasonably anticipated to cause or contribute to impairment of visibility in each mandatory Class I Federal area in the MANE-VU region. If it is infeasible to achieve that level of reduction from a unit, alternative measures will be pursued in such State; and
- continued evaluation of other control measures including energy efficiency, alternative clean fuels, and other measures to reduce SO<sub>2</sub> and nitrogen oxide (NO<sub>x</sub>) emissions from all coal-burning facilities by 2018 and new source performance standards for wood combustion. These measures and other measures identified will be evaluated during the consultation process to determine if they are reasonable and cost-effective.

In addition, the long-term strategy accepted by the MANE-VU states to reduce and prevent regional haze allows each state up to 10 years to pursue adoption and implementation of reasonable and cost-effective NO<sub>x</sub> and SO<sub>2</sub> controls. Through the MANE-VU states' acceptance of the emission management strategies outlined in the statements on the June 20<sup>th</sup> call, they confirmed the set of actions the MANE-VU states will pursue in their state implementation plans (SIPs) to provide reasonable progress toward improved visibility by 2018, the first milestone in meeting the long-term regional haze goals for each Class I area.

Once the statements were accepted via the internal MANE-VU consultation process, the MANE-VU states initiated their consultation process with the MRPO and VISTAS states. The MANE-VU Class I states held an Open Technical Call on July 19, 2007 to provide the other regions with a review of the technical information and analyses performed by MANE-VU that were used in determining which states were contributing to impairment in the Class I areas and to discuss the approach the MANE-VU Class I areas planned to take on consultations. The MANE-VU Class I states then held in-person meetings with the contributing states from each of the other RPOs. The MANE-VU/MRPO consultation meeting occurred on August 6, 2007 in Chicago, IL, and the MANE-VU/VISTAS consultation meeting occurred on August 20, 2007 in Atlanta, GA. MANE-VU and the MRPO held an additional conference call on September 13, 2007, and the two RPOs continue to work on initiatives that came out of the consultation discussions through the MANE-VU/MRPO State Collaborative process. MANE-VU anticipates that some of the VISTAS states that participated in the consultations will also join in these collaborative initiatives in the near future.

The MANE-VU Air Directors also held additional intra-MANE-VU consultation discussions on issues concerning the emission management strategies outlined in the statements on three subsequent conference calls. During the September 26, 2007 call, participants discussed how to interpret the emission management strategies in the statements for purposes of estimating visibility impacts via air quality modeling. On February 28, 2008 the MANE-VU states received the results of the final 2018

modeling runs. Finally, on the March 21, 2008 call the states discussed the process for establishing reasonable progress goals for the MANE-VU Class I areas.

Summaries of the individual meetings and calls referenced above follow, with the intra-MANE-VU consultation documentation first, then the MRPO consultation documents and finally the VISTAS consultation summaries. Copies of the final MANE-VU Class I states' resolution and statements appear at the end of this appendix.

Listing of consultation summary documentation:

1. Intra-MANE-VU Consultation Meeting Summary, March, 1, 2007, Washington, DC
2. Intra-MANE-VU Consultation Meeting Summary, June 7, 2007, Washington, DC
3. Intra-MANE-VU Consultation Conference Call Summary, June 20, 2007
4. Intra-MANE-VU Consultation Conference Call Summary, MANE-VU Air Directors, March 31, 2008
5. MANE-VU Class I States' Consultation Open Technical Call Summary, July 19, 2007
6. MANE-VU/MRPO Consultation Meeting Summary, August 6, 2007, Chicago, IL
7. MANE-VU/MRPO call
8. MANE-VU/VISTAS Consultation Meeting Summary, August 20, 2007, Atlanta, GA
9. Resolution of the Commissioners of States with Mandatory Class I Federal Areas Within the Mid-Atlantic Northeast Visibility Union (MANE-VU) Regarding Principles for Implementing the Regional Haze Rule, adopted June 20, 2007
10. Statement 1: Statement of the Mid-Atlantic/Northeast Visibility Union (MANE-VU) Concerning a Course of Action Within MANE-VU Toward Assuring Reasonable Progress, adopted June 20, 2007
11. Statement 2: Statement of the Mid-Atlantic/Northeast Visibility Union (MANE-VU) Concerning a Request for a Course of Action by States Outside of MANE-VU Toward Assuring Reasonable Progress, adopted June 20, 2007
12. Statement 3: Statement of the Mid-Atlantic/Northeast Visibility Union (MANE-VU) Concerning a Request for a Course of Action by the U.S. Environmental Protection Agency (EPA) Toward Assuring Reasonable Progress, adopted June 20, 2007
13. Attachment to Statements 1 and 2: List of 167 EGU stacks, dated June 20, 2007

**Intra-MANE-VU Consultation Meeting Summary**  
**March 1, 2007**  
**Washington DC**

**Introduction**

The Mid-Atlantic/Northeast Visibility Union (MANE-VU) held an in-person consultation meeting of the region's states on March 1, 2007 in Washington DC. The purpose of the consultation meeting was to fulfill the requirements of 40 CFR 51.308(d)(1)(B)(iv) and (3)(i) for Class I states to consult with contributing states on developing reasonable progress goals for the region's seven mandatory federal Class I areas, and for all contributing states to consult on the development of coordinated emission management strategies. All MANE-VU states were invited to participate along with the region's Federal Land Managers (FLMs) from the National Park Service, Fish & Wildlife Service, and Forest Service, and the Environmental Protection Agency (EPA) regional representatives from Regions I, II, and III.

Topics discussed included:

- 1) An overview of the regional haze program's goals and requirements;
- 2) A review of the uniform progress glidepaths and anticipated status of visibility impairment in 2018 in the seven MANE-VU mandatory federal Class I areas; and
- 3) A review of an analysis based on the Clean Air Act's statutory factors of what controls may be considered reasonable; and
- 4) Discussions of reasonable control options by source sector.

**Key Outcomes of the Consultation**

- As an overriding principle, MANE-VU looks for equivalent reductions, not equal reductions across source categories.
- A low-sulfur fuel oil strategy is viable as a MANE-VU 2018 control measure, at a 500 ppm sulfur limit in the near-term, and a 15 ppm goal for distillate in 2018.
- Sulfur limits on #4 and #6 fuel oil require more analysis, and oil-fired EGUs with scrubbers will need flexibility.
- The ICI boiler sector needs further analysis as to what controls may be reasonable, especially from small and medium-sized boilers.
- If it is reasonable for MANE-VU to achieve a 40% sulfur reduction in the non-EGU sector, it may also be reasonable that contributing states in other RPOs could find equivalent reasonable reductions.
- There was no real consensus on controls on residential wood / open burning as a regional strategy, as what can be achieved in these sectors varies widely from state to state.
- MANE-VU Class I states will conduct a series of separate phone calls to develop a proposal for moving forward on consultations and developing reasonable control options.
- The MANE-VU states agreed to keep working towards implementing reasonable regional controls, which would be discussed at the next MANE-VU consultation meeting in June 2007.

## **Attendees**

### **States and Tribes:**

Maine (Class I state) – David Littell, Jeff Crawford  
New Hampshire (Class I state) – Jeff Underhill  
New Jersey (Class I state) – Lisa Jackson, Nancy Wittenberg, Chris Salmi  
Vermont (Class I state) – Justin Johnson, Dick Valentinetti, Paul Wishinski  
Connecticut – Anne Gobin  
Delaware – Ali Mirzakhilili  
District of Columbia – Deidre Elvis-Peterson, Abraham Hagos  
Maryland – Tad Aburn  
Massachusetts – Arleen O’Donnell, Barbara Kwetz  
Pennsylvania – Tom Fidler, Joyce Epps, Wick Havens  
New York – Dave Shaw, Rob Sliwinski

### **Federal Land Management Agencies and EPA Regional Offices:**

National Park Service – Bruce Polkowsky, John Bunyak  
Forest Service – Anne Mebane, Anne Acheson, Andrea Stacey  
Fish and Wildlife Service – Sandra Silva, Tim Allen  
EPA Region I – Anne Arnold  
EPA Region III – Makeba Morris, Neil Bigioni

## **Welcome and Introductory Remarks**

David Littell, MANE-VU Vice-Chair and Commissioner of Maine’s Department of Environmental Protection, opened the consultation with a welcome and introductions around the room. Mr. Littell followed with a presentation entitled “Bringing Clear Views to Acadia National Park and Other Class I Areas.” Acadia National Park is one of three mandatory Class I areas in Maine while New Hampshire has two, and Vermont and New Jersey each have one. Mr. Littell noted that annual visitation at Acadia is over 2 million visits a year leading to visitor spending of more than \$127 million in 2005, and surveys indicate that a clear vista is a strong factor in a visitor’s positive experience at the park.

Mr. Littell then provided an overview of the goals for today’s consultation, including:

- Review requirements, resources and critical timing issues to ensure all share a common understanding;
- Discuss options for control measures to identify what is reasonable in MANE-VU;
- Identify impediments to implementing control measures and discuss how to address them;
- Identify links between haze, PM, and ozone strategies that help define what's reasonable;
- Define reasonable progress for MANE-VU Class I Areas in terms of control measure options; and
- Summarize points of agreement and identify issues for follow-up consultation.

## **Overview of MANE-VU Consultation**

Anna Garcia, MANE-VU Deputy Director, followed with a presentation entitled “Timing, Contribution, and Consultation.” Noting that multiple methods show consistent conclusions about which states are

top contributors and that a single MANE-VU consulting group offers the best opportunity to engage contributing states in a meaningful consultation process, Ms. Garcia emphasized that the MANE-VU states need to make sure we know what we are asking of the states within MANE-VU before consulting with contributing states outside of MANE-VU. Today's consultation is the first formal intra-MANE-VU consultation being held to develop MANE-VU's "clean hands" position and to start the process of determining reasonable control measures by MANE-VU states for the December 2007 Regional Haze State Implementation Plan (SIP) submissions.

### **MANE-VU Regional Haze Goals**

Paul Wishinski from Vermont's Department of Environmental Conservation followed with a presentation entitled "Overview of Program Requirements for the Regional Haze Rule." Under the regional haze regulations, both the reasonable progress goals to be set by the Class I states and the long-term coordinated emissions strategies to meet the reasonable progress goals require consultations with contributing states and the Federal Land Managers (FLMs). Mr. Wishinski concluded, as did Ms. Garcia before, that the key next step is for the MANE-VU states to agree on what they believe are reasonable control measures for visibility improvement at the MANE-VU Class I areas.

Jeff Underhill from New Hampshire's Department of Environmental Services followed with a presentation entitled "Status of Visibility at MANE-VU Class I sites and Modeling for the Regional Haze Rule." Based on modeling results, Mr. Underhill concludes that all of MANE-VU's seven mandatory Class I areas will likely be below the uniform progress line in 2018 with "on-the-books" controls plus 500 ppm maximum sulfur limit for #2 distillate, except in Delaware and Vermont. However, more progress can be made through additional reasonable measures, and the Regional Haze Rule requires us to consider these measures via the consultation process with contributing states.

### **Developing Reasonable Progress for MANE-VU Class I Areas**

Art Werner of MACTEC Federal Programs, Inc., MANE-VU's contractor for the four-factor reasonable progress project, followed with a presentation on the preliminary results of that project. Mr. Werner reviewed the four factors that need to be analyzed to determine which emission control measures are needed to make reasonable progress in improving visibility: 1) the costs of compliance, 2) the time necessary for compliance, 3) energy and non-air quality environmental impacts of compliance, and 4) the remaining useful life of any source subject to such requirements. Mr. Werner also presented a preliminary marginal cost figure of \$1,390/ton (1999\$) of SO<sub>2</sub> in 2018 from a recent MANE-VU-sponsored IPM run for a "CAIR Plus" policy. The final report due in May will provide a methodology for addressing reasonable progress and inform the MANE-VU states on control measure costs for both priority source categories and selected individual sources for upcoming consultations on setting the reasonable progress goals for the MANE-VU mandatory Class I areas.

### **Assessing Control Options**

The final presentation by Chris Salmi with New Jersey's Department of Environmental Protection entitled "Reasonable Measure Opportunities" emphasized that the MANE-VU Class I states intend to focus their reduction efforts for the 2018 milestone on sulfur dioxide reductions since they cause, on average, nearly 80% of the visibility impairment on the 20% worst days. Mr. Salmi presented recent control measure analyses showing that MANE-VU sources can reasonably achieve over 200,000 tons of

SO<sub>2</sub> reductions in 2018 from non-EGU control measures, primarily from ICI coal and oil-fired sources, a low-sulfur distillate strategy, and controls on Best Available Retrofit Technology (BART) sources. Mr. Salmi concluded his presentation by posing two questions for the members:

- 1) What measures does MANE-VU consider reasonable for 2018?, and
- 2) What measures do we ask others to implement?

The questions began a roundtable discussion initiated by Ms. Garcia's intentionally broad question to the members asking what is reasonable.

### **Summary of Discussion**

NESCAUM suggested, and New Hampshire agreed that as an overriding principle what MANE-VU is looking for is equivalent reductions, not equal reductions across source categories. The discussion segued to what MANE-VU can reasonably accomplish for a low-sulfur fuel oil strategy. The members agreed that this is a prime example of a source category where MANE-VU can make reasonable reductions due the widespread use of distillate for residential and commercial heating. Other states primarily outside of MANE-VU do not have a similar reliance on fuel oil for heating, so they could make equivalent reasonable reductions from other source categories to match MANE-VU's heating oil sulfur reductions.

Further discussion continued with respect to two potentially reasonable fuel-oil strategies for the MANE-VU region, dubbed S1 and S2:

- S1 is less stringent and envisions a 75% reduction in sulfur content to 500 ppm by 2018 for home heating / distillate, and 50% reductions in sulfur content for #4 and #6 fuel oils.
- S2 envisions a 99.25% reduction in sulfur content to 15 ppm by 2018 for home heating / distillate, and the same 50% reductions for #4 and #6 as in S1.

New Hampshire suggested the need to move carefully due to the concerns about price and supply issues. Vermont countered that there is a 10-year timeframe to accomplish a low-sulfur fuel oil strategy. Pennsylvania suggested that a 500 ppm strategy is reasonable, but timing is important. Vermont added that the Northeast states have been discussing low-sulfur fuel oil strategies for ten years already, and that two or three states such as New York, New Jersey, and Connecticut need to go first and pass regulations to catalyze regional negotiations with industry. New Jersey noted that New Jersey has started their rulemaking process on low-sulfur fuel oil; New York added that New York has started their rulemaking process for 500 ppm for distillate by 2018. Connecticut said that Connecticut's fuel standards are set by statute, and the statute precludes Connecticut from lowering its fuel-oil standards until neighboring states Massachusetts and Rhode Island do so as well, presumably for regional supply reasons.

Continuing the low-sulfur fuel oil discussion, Pennsylvania asked if EPA has been approached on a national low-sulfur fuel oil strategy. New Jersey replied that EPA is not focusing on this area, leaving it to the states. NESCAUM added that the industry believes that part of the deal with EPA for accomplishing the 15 ppm on-road ultra low-sulfur diesel (ULSD) standard is that there will be no more sulfur reductions expected. MANE-VU noted that in recent discussions, the industry suggested it was possible to achieve a 15 ppm sulfur level for distillate within a 2014 timeframe. Massachusetts said that it may be difficult for Massachusetts to commit to a 15 ppm sulfur level in distillate by 2018, noting,

however, that the positive co-benefits of greater furnace efficiency and therefore lower GHG emissions might help in instituting a 15 ppm sulfur level in distillate regulation. New Jersey emphasized that we have a decade to accomplish a 15 ppm sulfur standard for distillate.

MANE-VU asked the group about what might work in terms of lower sulfur limits in #4 and #6 fuel oils. Pennsylvania said that Pennsylvania has various sulfur limits and they would need more time to analyze such limits. New Jersey noted that these low-sulfur fuels are already available as some New Jersey counties are already below 5000 ppm sulfur. Maine questioned what limits on #6 fuel oil would mean for those oil-fired EGUs that have scrubbers.

MANE-VU wrapped up the low-sulfur fuel-oil discussion asking the group if the S1 strategy was viable as a MANE-VU 2018 region haze control measure. The consensus was that a 500 ppm sulfur limit “near-term” and a 15 ppm “goal” for distillate in 2018 is viable. For #4 / #6 sulfur limits, the consensus was that more work needs to be done, and that flexibility should be provided to states that have scrubbers on their oil-fired EGUs.

The consultation moved on to sulfur reductions from the coal-fired ICI (Industrial, Institutional, and Commercial) sector and whether MANE-VU can include such reductions in a non-EGU strategy bundle at this time. Pennsylvania suggested that controls for small-to-medium size boilers (<100 MM Btu / hour heat input) may not be cost-effective, adding that a 50% reduction in sulfur emissions from coal-fired ICI sources may overestimate what can realistically be achieved. New Hampshire suggested that recent analysis by New Hampshire staff on installation costs should be considered. Maine added that this sector may be a viable source for other RPO states to achieve reasonable sulfur reductions from their non-EGU sectors that are equivalent to the 40% sulfur reductions expected from non-EGU sources within MANE-VU due to the low-sulfur fuel oil strategy.

The consensus concerning sulfur reductions from the coal-fired ICI sector was that there is a need for more analysis to determine what is reasonable to obtain sulfur reductions from small and medium-sized coal-fired boilers. There was also consensus that if MANE-VU achieves overall reasonable sulfur reductions in the 40% range from the non-EGU sector, then other RPOs could find equivalent reasonable reductions.

Discussions moved on to other potential regional haze control measures within MANE-VU. For lime and cement kilns, both Pennsylvania and New York agreed that there is wide variability in these sources. Pennsylvania suggested that lime kiln controls are not cost-effective, and that an EPA global settlement on cement kilns was coming soon anyway. New York added that they will be regulating its three cement kilns as BART sources.

For the residential wood combustion / open burning source category, there was general consensus on including outdoor wood boilers in this category. New Jersey encouraged greater use wood stove changeout programs. New Hampshire replied that what can be done on wood combustion varies from state to state, and, for example, in New Hampshire new wood stove standards would be acceptable, but not changeout programs. New York added that open burning bans are unenforceable, especially in rural areas. There was little consensus on control measures in this source category, considering that the primary pollutants of concern are organic carbon and direct particulate matter, and not sulfur which is the primary regional haze pollutant within MANE-VU for the first planning milestone in 2018.

The Intra-MANE-VU Consultation Meeting adjourned.

**Intra-MANE-VU Consultation Meeting Summary**  
**June 7, 2007**  
**Providence, Rhode Island**

**Introduction**

The Mid-Atlantic/Northeast Visibility Union (MANE-VU) held an in-person consultation meeting of the region's states on June 7, 2007 in Washington DC. The purpose of the consultation meeting was to fulfill the requirements of 40 CFR 51.308(d)(1)(B)(iv) and (3)(i) for Class I states to consult with contributing states on developing reasonable progress goals for the region's seven mandatory federal Class I areas, and for all contributing states to consult on the development of coordinated emission management strategies. All MANE-VU states were invited to participate along with the region's Federal Land Managers (FLMs) from the National Park Service, Fish & Wildlife Service, and Forest Service, and the Environmental Protection Agency (EPA) regional representatives from Regions I, II, and III.

Topics discussed included: 1) the process for setting reasonable progress goals by the MANE-VU Class I states; 2) an approach for intra-MANE-VU consultation including control strategy development within MANE-VU for setting the reasonable progress goals; 3) an approach for consulting with states outside of MANE-VU on the reasonable progress goals to be established by the MANE-VU Class I states; and 4) the next steps in the consultation process.

**Key Outcomes of the Consultation**

- All of the MANE-VU states agreed that a resolution setting out the principles by which the Class I states will implement the regional haze rule should go to the MANE-VU Board for approval, although the document was to be signed only by the MANE-VU Class I states.
- Two separate draft statements on courses of action by states within and outside MANE-VU for assuring progress towards the MANE-VU Class I States' reasonable progress goals were tabled until a corrected list of 167 EGU stacks impacting visibility in the MANE-VU Class I areas could be generated. The MANE-VU states agreed that they would vote by conference call once the corrected 167 EGU stack list became available.

**Attendees**

**States:**

Maine (Class 1 state) – David Littell  
New Hampshire (Class 1 state) – Bob Scott, Jeff Underhill  
Vermont (Class 1 state) – Justin Johnson, Dick Valentinetti  
New Jersey (Class 1 state) – Lisa Jackson, Nancy Wittenberg, Chris Salmi  
Connecticut – Dave Wackter  
Delaware – Ali Mirzakilili  
District of Columbia – Cecily Beall  
Massachusetts – Arleen O'Donnell, Barbara Kwetz  
Maryland – Tad Aburn  
New York – Dave Shaw  
Pennsylvania – Tom Fidler, Joyce Epps, Wick Havens  
Rhode Island – Michael Sullivan, Steve Majkut

### **Federal Land Management Agencies and EPA Regional Offices:**

National Park Service – Bruce Polkowsky (in person), Holly Salazar (on phone)

Fish & Wildlife Service – Tim Allen (on phone)

Forest Service – Ann Mebane, Ann Acheson (on phone)

EPA Region III (on phone)

### **Welcome and Introductions**

David Littell, MANE-VU Vice-Chair and Commissioner of Maine’s Department of Environmental Protection, opened the consultation with a welcome and introductions around the room, including those on the phone. Anna Garcia, MANE-VU Deputy Director, followed with a brief outline of the goals for the consultation, including an update on recent technical work and discussions of the proposed MANE-VU Class I states resolution on consultation principles, a proposed statement on control measures within the MANE-VU region for achieving reasonable progress goals, and a proposed statement on controls outside of the MANE-VU region for achieving reasonable progress goals.

### **Status of Technical and Policy Work Issues**

Gary Kleiman, NESCAUM, led this session with an update of the recent technical work, including preliminary modeling results. All seven of the MANE-VU Class I areas will be below the uniform rate of progress in 2018 according to preliminary modeling results. Tad Aburn, Maryland, asked the Federal Land Managers (FLMs) if the MANE-VU technical approach is satisfactory. Bruce Polkowsky, National Park Service, replied that the other eastern RPOs are doing similar work and achieving better than uniform progress but have different approaches to reasonable progress. Tim Allen, Fish and Wildlife Service, commented that MANE-VU is not taking as much of a chemistry-intensive approach as other RPOs, and MANE-VU will likely need to address nitrates and organics in the next regional haze planning phase after 2018. Mr. Allen added that he is very supportive of obtaining as many reductions as possible now as they will only be more difficult to obtain later.

Chris Salmi, New Jersey Department of Environmental Protection, followed with a presentation on MANE-VU’s approach to fulfilling the regional haze rule’s reasonable progress requirement. The statutory four-factor analysis for control strategies for visibility-impairing source sectors provides the central focus for the Class I states’ determination of what is reasonable. Finally, Anna Garcia ended the session with a brief presentation on the process by which MANE-VU chose the regional source sectors that were included in the four-factor analysis.

### **Roundtable Discussions**

The MANE-VU states began their consultation with a roundtable discussion of the draft resolution by the MANE-VU Class I states on principles for implementing the regional haze rule, including the requirement for consulting with contributing states on reasonable progress. After minor wording changes, the states then agreed to seek Board approval although the resolution would be signed only by the MANE-VU Class I states.

Roundtable discussions ensued on the two proposed statements, one on control strategies within the MANE-VU states for assuring reasonable progress, and the other for states outside MANE-VU. When it became clear that more work needed to be done so all states were comfortable with the final list of 167

EGU stacks having the greatest visibility impact on the MANE-VU Class I areas, the states agreed to postpone voting on the statements until a later date by conference call.

A final discussion on a draft statement on requesting further action by the U.S. Environmental Protection Agency (EPA) on tightening the CAIR program for assuring reasonable progress also occurred. The states also agreed to table a vote on this statement until a conference call.

### **Consultation Next Steps**

A brief discussion on next consultation steps, especially with the Regional Planning Organizations outside of MANE-VU also occurred. Those steps include:

- Consulting within and outside MANE-VU about which control strategies are reasonable;
- Deciding how to include the strategies in the final statements in modeling;
- Determining goals based on final modeling;
- Pursuing the adoption of enforceable emissions limits & compliance schedules; and
- Evaluating progress in 5 years.

**Intra- MANE-VU Consultation Conference Call Summary  
June 20, 2007**

**Introduction**

On June 20, 2007 the MANE-VU Commissioners and Air Directors participated on a conference call to continue consultation discussions on emission management strategies for the region to pursue to achieve reasonable progress toward natural conditions in the region's Class I areas. The MANE-VU state Members completed their review of a resolution and three statements proposed by the Class I states to the larger MANE-VU membership, and voted to accept these documents and confirm the set of actions the MANE-VU states will pursue in their state implementation plans (SIPs) to provide reasonable progress toward improved visibility by 2018, the first milestone in meeting the Class I areas' long-term regional haze goals.

**Attendees**

**States, Tribes and MSOs:**

Maine (Class 1 state) – David Littell, Jeff Crawford  
New Hampshire (Class 1 state) – Jeff Underhill, Andy Bodnarik  
New Jersey (Class 1 state) – Chris Salmi  
Connecticut – Anne Gobin  
Delaware – Ali Mirzakarili  
District of Columbia – Cecily Beall  
Massachusetts – Barbara Kwetz  
Maryland – Tad Aburn, Andy Hildebride  
New York – Dave Shaw  
Pennsylvania – Tom Fidler, Joyce Epps, Wick Havens  
Penobscot Tribe – John Banks, Bill Thompson  
Rhode Island – Steve Majkut  
NESCAUM – Arthur Marin, Gary Kleiman

**Consultation Discussions**

The MANE-VU states voted on and passed three statements, which are attached to this summary, with some minor changes. The three statements are entitled as follows:

1. Statement of the Mid-Atlantic/Northeast Visibility Union (MANE-VU) Concerning a Course of Action Within MANE-VU Toward Assuring Reasonable Progress;
2. Statement of the mid-Atlantic/Northeast Visibility Union (MANE-VU) Concerning a Request for a Course of Action by States Outside of MANE-VU Toward Assuring Reasonable Progress; and
3. Statement of the Mid-Atlantic / Northeast Visibility Union (MANE-VU) Concerning a Request for a Course of Action by the U.S. Environmental Protection Agency (EPA) Toward Assuring Reasonable Progress.

The final versions of the statements which were accepted via the vote reflect the following changes:

- agreement on the list of EGU stacks, which is attached to both Statement 1 and 2, and revising the table to remove columns listing plant type, SO2 tons per year and rank, and changing the bottom notes accordingly (see explanation below);
- removal of the phrase "top 100" from the 4th action bullet on Statement 1 and the 2nd action bullet on Statement 2 (regarding 90% reduction from EGUs);
- correction of the date for 500 ppm low sulfur fuel oil to "by no later than 2012" (I made the error of changing that date to "2014" in translating the Consultation comments - it should be 2012 as for the other inner zone fuel requirements);
- revision of the last paragraph in Statement 3 to delete "beyond 2018 CAIR levels" and replace it with "by no later than 2018"; and
- a change in the signature line on all three statements to "Adopted by the MANE-VU States and Tribes on (date)."

In addition, the members agreed to keep the columns that were deleted from the abbreviated "167 stacks" table as part of the larger spreadsheet of the 167 stacks that MARAMA produced and to make that document part of a technical support document to Statements 1 and 2. The columns were deleted to keep the table simple and to reduce confusion about tons per year information used in the modeling vs. tons per year information in the Acid Rain Database, in which there are some differences. Attachment 1 to the Statements refers to the 2002 tons per year information from the MANE-VU Contribution Assessment at the bottom of the table.

The MANE-VU states also confirmed that, if it is infeasible for the oil/gas units that are in New Hampshire and Maine to meet the 90% reduction for EGUs, meeting the low sulfur fuel oil requirements would be sufficient. In addition, the MANE-VU states will also credit early state actions (within a few years prior to 2002) toward the 90% target of reducing emissions from EGUs on the "167 stack" list.

The group also decided that the technical support document for the statements and the consultation summaries would be circulated to the MANE-VU states for their review and comment, and to get any further corrections to the more comprehensive table of 167 stacks (some states had changes to the plant types on the list).

#### Voting on the Statements

At the end of the call the states voted on whether they would accept each of the statement. For Statement 1, New Jersey moved that the statement be put up for a vote and Pennsylvania seconded the motion. All MANE-VU states on the call voted to accept Statement 1. On Statement 2, the Penobscot Tribe moved that it be considered for a vote and Massachusetts seconded the motion. Once again, all MANE-VU states on the call voted to accept Statement 2. Finally, for Statement 3, the Penobscot Tribe moved that it be considered for a vote and New Jersey seconded the motion. All MANE-VU states on the call voted to accept Statement 3.

New York and Vermont were unable to participate on the consultation conference call, so to ensure that all the MANE-VU member states are in agreement on these actions, the MANE-VU executive staff proposed to contact each state individual by phone and email to get their response to the vote on the statements. Within one day of the consultation conference call, the MANE-VU executive staff briefed New York and Vermont by phone and email and received their confirmation that they accepted all three statements as revised on the call.

#### **Intra-MANE-VU Consultation Conference Call Summary**

**March 31, 2008**  
**MANE-VU Air Directors**

**States:**

Maine (Class I state) – Jeff Crawford

New Hampshire (Class I state) – Jeff Underhill, Andy Bodnarik

New Jersey (Class I state) – Chris Salmi, Stella Oluwasuen-Apo, Peg Gardner

Connecticut – Dave Wackter

Delaware – Jack Sipple

District of Columbia – Cecily Beall

Maryland – Roger Thunell, Brian Hug

Massachusetts – Glenn Keith

New York – Gopal Sistla, Rob Sliwinski

Pennsylvania – Joyce Epps

Representatives of MANE-VU member states met via conference call on March 31, 2008.

During the call, NESCAUM modeling assumptions and results were reviewed, and the three Class I states present (Maine, New Hampshire, and New Jersey) confirmed that they would be relying on the results of that modeling to set their reasonable progress targets. The targets based on the modeling were included in the MANE-VU SIP Template draft that is posted on the MARAMA web site and will be sent to EPA for review. (Note: sent on 4/2/08)

Ms. Garcia agreed to share the results of the MANE-VU modeling with Virginia and West Virginia before the Stakeholder meeting on Friday, April 4.

Maine, New Hampshire, Vermont, and Massachusetts had met with oil companies and distributors concerning the MANE-VU low sulfur oil strategy. Stakeholders had expressed some concern about the 0.5% limit for residual oil, but states wanted to gather more information before deciding whether to make any changes in the MANE-VU strategy.

Participating states reviewed choices concerning the Long Term Strategy section of the SIP Template, and it was agreed that a document describing those choices would be revised and discussed further with EPA and FLM agency representatives. Individual MANE-VU states might make different choices with respect to language in their SIPs, and some gave indications of their preferences.

**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<sub>4</sub> 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?
- 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 5<sup>th</sup> 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 measures 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 6<sup>th</sup> and August 20<sup>th</sup> 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. 6<sup>th</sup>)
- 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 over a year – completed a great deal of technical work.
- Their reasonable progress project by EC/R is finished. It looked at the four factors, plus visibility improvement. Examined similar strategies as those that MACTEC did for MARAMA analysis. Now completing report - 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.

Discussion:

- 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. 6<sup>th</sup>. 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 6<sup>th</sup> 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 Brigantine 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 .

#### Discussion:

- 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 20<sup>th</sup> 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 the 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 Notarianni (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 6<sup>th</sup> 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 6<sup>th</sup> and 20<sup>th</sup> – 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](http://www.manevu.org).

## **Attendees**

### MANE-VU:

Maine (Class I state) – Jeff Crawford, Tom Downs  
New Hampshire (Class I state) – Bob Scott, Jeff Underhill  
New Jersey (Class I state) – Chris Salmi, Ray Papalski, Sandy Krietzman  
Vermont (Class I state) – Dick Valentinetti, Paul Wishinski  
Connecticut – Wendy Jacobs  
Delaware – Jack Sipple  
Maryland – Tad Aburn, Andy Hildebride  
Massachusetts – Eileen Hiney  
New York – Matt Reis, Diana Rivenburgh  
Penobscot Tribe – Bill Thompson  
EPA Region I – Anne Arnold, Anne McWilliams  
EPA Region II – Bob Kelly  
EPA Region III – Ellen Wentworth, LaKeshia Robertson  
FLM - Forest Service – Ann Mebane  
FLM – Fish & Wildlife Service – Tim Allen  
FLM – National Park Service – Bruce Polkowsky, Holly Salazer  
MARAMA – Susan Wierman, Julie McDill  
NESCAUM – Gary Kleiman  
OTC – Anna Garcia, Doug Austin

### MRPO:

Illinois – Rob Kaleel  
Indiana – Chris Pederson, Ken Ritter  
Michigan – Vince Helwig, Cynthia Hodges  
Ohio – Bill Spires  
Wisconsin – Larry Bruss, Bob Lopez  
LADCO – Mike Koerber

VISTAS:

Georgia – Jimmy Johnston, Heather Abrams

Kentucky – John Lyons, Diana Andrews, Lona Brewer, Martin Luther

North Carolina – Keith Overcash, Sheila Holman, Laura Booth, George Bridgers

South Carolina – Renee Shealy, John Glass, Maeve Mason, Stacey Gardner

Tennessee – Barry Stephens, Quincy Styke, Julie Aslinger

Virginia – Tom Ballou, Doris MacLeod, Mike Kiss

West Virginia – Fred Durham, Bob Betterton, Laura Crowder

EPA Region IV – Brenda Johnson

EPA OAQPS – Michelle Notarianni

Metro 4/SESARM – John Hornback

VISTAS- Pat Brewer

**MANE-VU/MRPO Consultation Meeting Summary**  
**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 SO<sub>2</sub> (and NO<sub>x</sub>) 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 SO<sub>2</sub> RACT for ICI boilers, and examining potential SO<sub>2</sub> control measures;
  - Contacting NACAA regarding expansion of the Boiler MACT model rule work to address SO<sub>2</sub> and NO<sub>x</sub>; 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**

**MANE-VU States:**

Maine (Class I state) – David Littell, Jeff Crawford

New Hampshire (Class I state) – Tom Burack, Bob Scott

New Jersey (Class I state) – Chris Salmi

Vermont (Class I state) – Justin Johnson, Dick Valentinetti, Paul Wishinski

**MRPO States:**

Illinois – Laurel Kroack, Scott Leopold

Indiana – Tom Easterly, Ken Ritter

Michigan – Vince Hellwig, Cynthia Hodges, Bob Irvine

Ohio – Bob Hodanbosi

Wisconsin – Larry Bruss

**Multi-State Organizations:**

OTC/MANE-VU – Anna Garcia, Doug Austin  
MARAMA/MANE-VU – Susan Wierman, Julie McDill  
NESCAUM/MANE-VU – Gary Kleiman  
LADCO/MRPO – Mike Koerber

**Federal Land Managers:**

National Park Service – Bruce Polkowsky  
Forest Service – Anne Mebane, Chuck Sams, Rich Fisher  
Fish & Wildlife Service – Tim Allen

**Environmental Protection Agency:**

Region I – Anne Arnold  
Region II – Bob Kelly  
Region III – Ellen Wentworth, Neil Bigioni (by phone)  
Region V – John Summerhays  
OAQPS – Todd Hawes, Michelle Notarianni (by phone)

**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 SO<sub>2</sub> and nitrogen oxide (NO<sub>x</sub>) 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 SO<sub>2</sub> and nitrogen oxide (NO<sub>x</sub>) 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 SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> 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<sub>2.5</sub> 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 30<sup>th</sup> 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 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 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.

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 16<sup>th</sup>. 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.

## **MANE-VU/MRPO Consultation Conference Call Summary September 13, 2007**

On Thursday, September 13, 2007, the Mid-Atlantic/Northeast Visibility Union (MANE-VU) Class I states (Maine, Vermont, New Hampshire, and New Jersey) held a consultation conference call with the Midwest Regional Planning Organization (MRPO) states (Illinois, Indiana, Ohio, Michigan and Wisconsin). The conference call came about as a result of the August 6, 2007 in-person consultation between the MANE-VU Class I states and the MRPO states who agreed to continue the consultation dialogue with respect to issues identified in the August 6<sup>th</sup> consultation. The following summary documents the discussions that took place during the consultation conference call.

### **Summary of Today's Consultation Conference Call Agreements**

- Continue sharing necessary EGU emissions inventory and control equipment data.
- The individual MRPO states will respond by letter to the MANE-VU Ask.
- Reconvene the ICI Boiler Workgroup effort from earlier this year to provide technical direction. Invite interested VISTAS states. Start out by looking at the Workgroup's early 2007 straw proposal.
- Continue beyond-CAIR discussions on the state collaborative calls. Form a small EGU policy group to provide policy direction towards developing a federal EGU Ask.

### **Conference Call Attendees**

#### **MANE-VU States:**

Maine (Class I state) – Jim Brooks, Jeff Crawford, Tom Downs  
New Hampshire (Class I state) – Jeff Underhill, Andy Bodnarik, Liz Nixon  
New Jersey (Class I state) – Chris Salmi, Ray Papalski  
Vermont (Class I state) – Justin Johnson, Paul Wishinski  
Connecticut – Wendy Jacobs  
Delaware – Jack Sipple  
Maryland – Tad Aburn  
Massachusetts – Glenn Keith  
New York – Rob Sliwinski, Matt Reis, Diana Rivenburgh, Scott Griffin

#### **MRPO States:**

Illinois – Rob Kaleel  
Indiana – Dan Murray, Ken Ritter, Scott Deloney, Chris Pederson  
Michigan – Bob Irvine, Cynthia Hodges  
Ohio – Bob Hodanbosi, Bill Spires

#### **Multi-State Organizations:**

OTC/MANE-VU – Anna Garcia, Doug Austin  
MARAMA/MANE-VU – Susan Wierman, Julie McDill  
NESCAUM/MANE-VU – Arthur Marin, Gary Kleiman  
LADCO/MRPO – Mike Koerber

**Federal Land Managers:**

National Park Service – Bruce Polkowsky

Forest Service – Anne Mebane

**Consultation Conference Call Discussions**

**Clarification of the MANE-VU “Ask”**

After the August 6, 2007 in-person consultation, the MRPO states had remaining questions relative to the MANE-VU Ask statements. One of the primary purposes of the consultation conference call was to address those questions.

One of the uncertainties expressed by MRPO was how to quantify the SO<sub>2</sub> reductions from the EGU sector that MANE-VU requested. MRPO stated that they were working with MARAMA and NESCAUM to clarify the EGU SO<sub>2</sub> inventories of the 50 MRPO stacks on the larger list of 167 stacks in the eastern U.S that were previously identified as locationally significant in terms of their visibility impacts on MANE-VU Class I areas.

MRPO also asked if MANE-VU meant that 90% SO<sub>2</sub> reductions, on average, on all of the 50 stacks within the MRPO states was expected. MANE-VU replied affirmatively, while emphasizing the flexibility within the Ask statement wherein if the 90% average SO<sub>2</sub> reductions from the 50 MRPO EGU stacks could not be realized then the shortfall could be made up by SO<sub>2</sub> reductions from other in-state EGUs. Additional flexibility in the Ask statement is that the shortfall could be made up from SO<sub>2</sub> reductions from the non-EGU sector that are in excess of the 28% reductions requested by MANE-VU from this sector. Vermont added that this flexibility is the least preferred since SO<sub>2</sub> reductions from taller EGU stacks are more important to reducing visibility impairment than SO<sub>2</sub> reductions from shorter non-EGU stacks. Finally, flipping the last flexibility scenario around, Wisconsin asked if they could substitute less expensive EGU SO<sub>2</sub> reductions for more expensive non-EGU SO<sub>2</sub> reductions, and Vermont replied that that would be most welcome for the same reason that tall stack reductions have a greater visibility benefit than short stack reductions.

Within this flexibility framework, a brief discussion followed on equivalent reductions versus equivalent impact. Vermont said it was of two minds on the topic in that although ideally they would like to see reductions from the flexibilities that have an equivalent impact on visibility as the 90% SO<sub>2</sub> reductions from the 50 MRPO EGU stacks, they were willing to accept EGU reductions from EGUs outside the 50 as automatically equivalent, and they were also willing to accept EGU SO<sub>2</sub> reductions in place of non-EGU SO<sub>2</sub> reductions so long as the EGU emission reductions did not go somewhere else under CAIR. Maine agreed and emphasized that they were looking for additive reductions, not re-arranged emissions. Wisconsin stated that it would be difficult to make the case for equivalent visibility impact to management.

The discussion moved on to the MANE-VU Ask for a 28% reduction in SO<sub>2</sub> emissions from the non-EGU sector. MRPO inquired whether BART reductions could be applied to the 28% non-EGU MANE-VU Ask. MANE-VU replied that they separated BART reductions out as additive to the other Asks. MRPO reiterated that that was not the understanding going in to this call. New Jersey replied that slide #16 of its presentation at the August 6<sup>th</sup> in-person consultation clearly shows BART reductions as separate. MANE-VU added that the 28% target came from the MANE-VU non-EGU low-sulfur fuel oil strategy. New Jersey clarified that if, after going through the BART determination process, the state determined

that no controls were needed for regional haze purposes, but reductions were made for PM2.5 purposes, then those reductions could be applied to the 28% non-EGU Ask.

#### **MRPO Response to the MANE-VU Ask**

MRPO and MANE-VU jointly posed the question of how to respond to the Ask. MANE-VU added that they needed to perform its last modeling run based on either RPO feedback or the default Ask levels.

MRPO said that the July 30, 2007 letter from MANE-VU formalized the Ask, so it was up to the MRPO states to respond, probably individually and with the hope for regional consistency. MRPO added that some further technical discussions may be needed as well as drafting a federal EGU Ask and reconvening the ICI Boiler Workgroup. Ohio, Michigan, Indiana, and Wisconsin all agreed that they were not ready to make any formal commitments on reductions. Wisconsin added that a personnel change at the Commissioner level could result in a delayed response.

Maryland inquired whether the federal EGU Ask should somehow be included in the regional haze SIPs or should it arise out of a separate process. MRPO added that the air quality needs of all of the states on the call are much larger than regional haze, and that all states will need more EGU reductions for ozone and PM2.5 as long as they remain more cost-effective than reductions from other sectors. Most states agreed that they were unlikely to put such a federal EGU ask in their regional haze SIPs.

#### **Next Steps**

MANE-VU posed the question of how to keep moving the consultation process forward adding that the VISTAS states had showed some interest in joining a reconvened ICI Boiler Workgroup at the August 20<sup>th</sup> in-person consultation. MRPO replied that they were interested in reconvening the ICI Boiler Workgroup noting that West Virginia has interest as well. MRPO suggested having the Workgroup start out by looking at the OTC / MRPO straw proposal from earlier in 2007. Other potential sources of information include the National Association of Clean Air Agencies (NACAA) boiler Maximum Achievable Control technology (MACT) effort and a NESCAUM ICI boiler study sponsored by EPA.

As for the federal EGU ask, MANE-VU stated that there is a need to keep the policy discussions alive on the state collaborative calls. MANE-VU added that they are in the process of reviewing the 2004 multi-pollutant position, and will look at forming a small EGU policy group.

MANE-VU asked whether there should be another consultation conference call. MRPO replied that MANE-VU should wait for MRPO follow-up to the MANE-VU Asks via individual state letters to the MANE-VU Class I states.

**MANE-VU/VISTAS Consultation Meeting**  
**August 20, 2007**  
**Atlanta, GA**

On Monday, August 20, 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 Visibility Improvement State and Tribal Association of the Southeast (VISTAS) states (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia, the Eastern Band of Cherokee Indians, and Knox County, Tennessee). The following summary documents the discussions that took place during the consultation.

**Summary of Today's Consultation Agreements**

1. Continue to share information and sync up our technical analyses.
2. Share information on biodiesel and biofuels, as well as what states are doing with respect to biomass boilers and outdoor wood boilers.
3. Continue dialogue on a potential CAIR Phase III policy position and the MANE-VU National "Ask."
4. Share information already developed on the ICI Boiler Sector, refine information on controls and costs, and engage in the upcoming National Association of Clean Air Agencies (NACAA) Boiler MACT work. Enlarge the non-EGU definition beyond boilers to include kilns.
5. Share information on locomotives and ocean-going vessels to see if there are more emission reduction opportunities.
6. Look at expanding the National "Ask" to include low-sulfur fuel oil.
7. John Hornback and Anna Garcia will discuss how to continue the dialogue, including conference calls and workgroup participation.

**Attendees**

**MANE-VU States:**

Maine (Class I state) – David Littell, Jeff Crawford  
New Hampshire (Class I state) – Jeff Underhill  
New Jersey (Class I state) – Ray Papalski  
Vermont (Class I state) – Justin Johnson, Dick Valentinetti, Paul Wishinski  
Pennsylvania - Tim Leon-Guerrero  
Penobscot Nation – Bill Thompson

**VISTAS States:**

Georgia - Carol Couch, Heather Abrams, Jim Boylan, Chuck Mueller  
Kentucky – Diana Andrews, Lona Brewer, John Lyons, Cheryl Taylor  
North Carolina – Laura Boothe, Sheila Holman, Keith Overcash  
South Carolina – Myra Reece, Renee Shealy  
Tennessee – Julie Aslinger, Tracy Carter, Quincy Styke  
Virginia – Jim Sydnor, Tom Ballou  
West Virginia – John Benedict, Laura Crowder, Fred Durham

**Multi-State Organizations:**

OTC/MANE-VU – Anna Garcia, Doug Austin  
MARAMA/MANE-VU – Susan Wierman  
NESCAUM/MANE-VU – Gary Kleiman  
VISTAS – John Hornback, Pat Brewer

**Federal Land Managers:**

National Park Service – Bruce Polkowsky  
Forest Service – Cindy Huber, Chuck Sams, Andrea Stacy  
Fish & Wildlife Service – Tim Allen

**Environmental Protection Agency:**

Region I – Anne McWilliams  
Region II – Bob Kelly  
Region III – LaKeshia Robertson, Ellen Wentworth  
Region IV – Beverly Banister, Rick Gillam, Brenda Johnson, Kay Prince  
OAQPS – Michelle Notarianni

**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 VISTAS and MANE-VU Class I areas in terms of control measure options; and
  - Summarize points of agreement and identify issues for follow-up consultation.
- Carol Crouch, Georgia, welcomed the attendees stating that today’s dialogue seeking clarification and understanding on regional air quality issues by so many states is notable. The Georgia Resource Board just adopted a rule for multi-pollutant controls for their EGU sector that will see 22 of 32 units controlled including SO<sub>2</sub> emissions reductions of 89% from 2002 base emissions. Ms. Crouch added that she hopes that today’s discussions will highlight additional emission reduction opportunities.

**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.
- Ms. Garcia noted that recent MANE-VU sensitivity modeling results form the basis for the various “ask” levels (within MANE-VU, outside of MANE-VU, and a national “ask”) as reflected in the MANE-VU statements. The MANE-VU Class I states developed these statements to outline the reasonable measures that comprise a long term strategy for achieving reasonable progress at the MANE-VU Class I areas. These statements, also informally referred to as the “asks” that MANE-VU Class I states are making of the MANE-VU states, and states outside of MANE-VU that have been determined to

reasonably contribute to visibility impairment at MANE-VU Class I areas, and the US EPA for additional reductions from EGU sources on a national basis.

- MANE-VU staff will be 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** – Paul Wishinski, Vermont DEC

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 VISTAS regions;
- Provided a comparative analysis of the MANE-VU region "ask" with that of the VISTAS "ask";
- Outlined the specifics of each of the "asks," including for VISTAS:
  - 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 SO<sub>2</sub> and nitrogen oxide (NO<sub>x</sub>) 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 SO<sub>2</sub> and nitrogen oxide (NO<sub>x</sub>) 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 SO<sub>2</sub> 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 (John Benedict, West Virginia):* Is there geographical variability in MANE-VU's low-sulfur fuel oil strategy?

- *Answer (Gary Kleiman, NESCAUM):* There are baseline levels for fuel oil usage within each state, but the fuel oil markets are regional in nature.
- *Comment (David Littell, Maine):* The issue in Maine is peak oil usage by EGUs in the winter since they can get fuel oil from Venezuela and the USSR.
- *Question (John Benedict, West Virginia):* What is the current distillate sulfur level?
  - *Answer (Paul Wishinski, Vermont):* Between 220-2500 ppm.
- *Question (Tom Ballou, Virginia):* Could you explain the rearrangement of the EGU emissions?
  - *Answer (Gary Kleiman, NESCAUM):* They are spread out between all EGUs proportionately, except for those in the 167 stacks, to maintain the cap.
- *Question (Pat Brewer, VISTAS):* Were adjustments made in the recent CMAQ sensitivity runs?
  - *Answer (Gary Kleiman, NESCAUM):* Yes, for the tags. [Note: tagging is a modeling technique that identifies the benefits of individual control strategies].

### **Summary of VISTAS Reasonable Progress Work** – Pat Brewer, VISTAS

#### Presentation:

- Provided both an overview and response to the MANE-VU “asks” including updates the VISTAS states received from their utilities last summer. The VISTAS Base G inventory may already satisfy the MANE-VU EGU “ask,” and the 2018 Base G2 inventory includes the recent EGU controls enacted by Georgia. VISTAS’ Base G2 and MANE-VU’s CAIR+ runs look similar.
- VISTAS visibility problems and areas tend to overlay their PM2.5 nonattainment areas.
- VISTAS currently doing a 4-factor analysis for non-EGU sources.
- The SO2 focus for the 2018 SIPs are for both the 20% best and worst days. The coastal Class I sites have non-summer days in the 20% worst. Even on the 20% best days, VISTAS has a sulfur story.
- Organic carbon is 2<sup>nd</sup> in importance regarding regional haze.
- VISTAS realizing 70% EGU reductions from EGU sector between 2002 and 2018. Eight scrubbers are now in operation in North Carolina. Even with scrubbers, the large EGUs still have SO2 emissions on the order of 5,000 tons per year.
- All of the VISTAS Class I mountain sites will have better than uniform progress. Mammoth cave and Sipsey see more wintertime nitrate than the others.
- The SO2 reductions will result in no degradation for the 20% best days.
- VISTAS’ reasonable progress analysis was developed in fall 2006, and started with source sector sensitivity analyses confirming the need for SO2 reductions for the greatest visibility benefits.
- Large ammonia contributions seen at the coastal sites (Cape Romaine and Brigantine). Recirculation of these ammonia emissions out to the ocean and recirculation back characterized as boundary conditions.
- VISTAS consultations to date include a 12/2006 and 5/2007 Air Directors’ meetings including letters to contributing states, a 6/2007 meeting with EPA and the FLMs, and North Carolina and South Carolina have submitted draft SIPs to the FLMs for their preliminary review.
- As for VISTAS states’ contribution to MANE-VU Class I areas, VISTAS and MANE-VU have arrived at different conclusions of impacts on Brigantine, Lye Brook, and Acadia using different methodologies. [Note: MANE-VU used percent sulfate contribution methodology, whereas VISTAS used the Area of Influence (AOI) and residence time methodology.]
- As for responses to MANE-VU “asks,” (1) BART satisfied within VISTAS, e.g, most BART sources meet exemption modeling criteria, some sources taking emission limits, most EGUs reducing SO2 and NOx under CAIR; (2) for 167 EGU list, VISTAS states will review EGU progress in 2012 to see where

emissions are versus the 90% target; and (3) for non-EGU, this is a ripe area for further discussion – VISTAS has lots of chemical plants and pulp and paper facilities.

- Wondering how the MANE-VU stakeholders have reacted to the low-sulfur fuel oil strategy since VISTAS analysis shows little visibility benefit from non-EGU sector and low-sulfur fuel oil strategies within VISTAS.
- There are large costs for SO<sub>2</sub> emissions reductions from the coal-fired non-EGU sector.
- Conclusions and key findings from VISTAS analyses:
  - The greatest visibility benefits come from EGU and non-EGU SO<sub>2</sub> reductions.
  - The VISTAS stakeholders asked “which sources?” To answer them, the AOI analyses looked at 100 km and 200 km radii with emissions weighted by residence time. AirControlNet used for all sources meeting both Q/d >5 and >10% residence time criteria to allow each state to prioritize for their 4-factor analysis.
  - Reasonable progress will be at least as stringent as the Base G2 controls.

#### Discussion:

- *Comment (Susan Wierman, MARAMA):* If Base G2 inventory is correct and these SO<sub>2</sub> reductions were not predicted by IPM, then it is essentially a beyond-CAIR strategy.
- *Question (Jeff Underhill, New Hampshire):* Could upcoming modeling be clarified?
  - *Answer (Pat Brewer, VISTAS):* There will be a full run this fall with Base G2 (it will also include any available controls for BART sources and other reductions identified by States through 4-factor reasonable progress analyses), and they have done sensitivity runs for BOTW reductions (30% beyond 2009).
- *Comment (Jeff Underhill, New Hampshire):* Glad to see VISTAS is using Q/d, but not sure about depending on residence time. Also, after MRPO consultation, may be working together on non-EGU sector analysis, and VISTAS states join in if interested.
- *Question (Tad Aburn, Maryland):* How have the new NAAQS standards impacted VISTAS?
  - *Answer (Pat Brewer, VISTAS):* The PM<sub>2.5</sub> problem areas are Birmingham, Atlanta, Kentucky, and West Virginia in 2009
- *Question (Ray Palpaski, New Jersey):* Will the reductions for those PM<sub>2.5</sub> areas also be in the regional haze SIPs?
  - *Answer (Pat Brewer, VISTAS):* Yes, for North Carolina and Georgia, but not sure about the CAIR states.
- *Comment (Ray Palpaski, New Jersey):* We need to get enforceable reductions for the CAIR states.

**EPA and FLM Perspectives on RPGs and Reasonable Measures Work** – Tim Allen, Fish and Wildlife Service; Bruce Polkowsky, National Park Service; Chuck Sams, Forest Service; Michelle Notarianni, EPA - OAQPS

#### Tim Allen, Fish and Wildlife Service

- The Fish and Wildlife and National Park Services are reviewing the regional haze SIPs as a team, and the Forest Service is conducting a separate review.
- In general, the FLMs are mainly concerned with content, and would like to see a SIP or long term strategy with a satisfactory conclusion. They are also concerned with the uncertainty of emissions growth, so they would also like the states to review the certainty level of identified emissions reductions.
- States should talk with EPA about the timing of regional haze SIP submissions. From the FLMs perspective, it would be better to have a more complete SIP, even if that means it would result in a

submittal that is slightly delayed beyond the deadline. The FLMs have seen three SIP submissions thus far – from NC, SC and CO.

- If a state would like expedited review, highlight key sections. Also, highlight any new technical information that they have not yet seen from consultations and that will require extra review time.
- For the 20% best days non-degradation goal, states should consider Prevention of Significant Deterioration (PSD) as part of their regional haze SIPs. The BART elimination test may be used for PSD.
- An observation from the MANE-VU/MRPO consultation is that the equivalent reductions process embodied in the MANE-VU “ask” works for reaching the visibility goals.

#### Bruce Polkowsky, National Park Service

- A reminder that thirteen days ago was the 30<sup>th</sup> anniversary of the passage of the 1977 Clean Air Act Amendments that enacted section 169A and established the regional haze program.
- The regional haze SIPs are the beginning of folding in protection of Class I areas to the nation’s air quality effort.
- We may be getting to the point where a beyond-CAIR program is achievable. Given the additional 800,000 tons of emissions that are in the “ask”, if states are getting them already, is this really that far from an additional phase of CAIR? If we can get SO<sub>2</sub> reductions from EGUs, they should be permanent.

#### Chuck Sams, Forest Service

- He concurs with the perspectives presented by FWS and NPS.
- The Forest Service will be sending a document on SIP submissions to MANE-VU.
- Note that the 20% best days level will be a new baseline for the following 10-year period.
- Residual oil SO<sub>2</sub> controls, especially marine, is an area ripe for more analysis and inter-RPO agreement.
- States should avoid the concept of the “committal SIP,” but focus on “commitments.” The FLMs would like to see as many emission reduction commitments as possible.

#### Michelle Notarianni, EPA – OAQPS

- Ms. Notarianni opened the floor for questions.
- *Question (Jeff Underhill, New Hampshire):* Is EPA pushing to have regional convergence on regional haze SIP issues, i.e., how will EPA regional offices coordinate their review of these SIPs?
  - *Answer (Michelle Notarianni, EPA):* There are ongoing discussions amongst the EPA Regions at a national level through the national workgroup, and it is anticipated that inter-regional discussions will occur on specific SIPs, similar to how the Regions handle multi-state ozone attainment SIPs.
- *Question (Dick Valentinetti, Vermont):* Is there an EPA SIP approval process for SIPs that are inter-related but come in at different times?
  - *Answer (Michelle Notarianni, EPA):* EPA is looking at that issue right now, but they also must act within 18 months of receipt of each SIP submittal under the Clean Air Act.
- *Question (Tad Aburn, Maryland):* Have there been any internal EPA discussions on the MANE-VU national “ask” or a next phase of CAIR?
  - *Answer (Michelle Notarianni, EPA):* She is not aware of any but will follow-up. (Anna Garcia later provided the names of OAQPS representatives that MANE-VU has been in contact with on this topic.)

- *Comment (John Hornback, VISTAS):* We need to show EPA enough information on costs and benefits, and the burden is on the states to make the case.
- *Comment (Bruce Polkowsky, NPS):* The MANE-VU / MRPO agreement from the consultation two weeks ago is to accomplish exactly that, and he hopes the VISTAS states will join the effort.
- *Question (Bill Thompson, Penobscot Nation):* How far along are other tribes with their regional haze SIPs? Is there any information available?
  - *Answer (Bruce Polkowsky, NPS):* No activity from the Western tribes that he knows of.
- *Question (Bruce Polkowsky, NPS):* Since state regulations will not be in place by SIP submittal and since these are 10-year SIPs, can EPA find a way to allow commitments?
  - *Answer (Michelle Notarianni, EPA):* There are legal problems with that approach. In general, commitments in SIPs are allowed in a very narrow set of circumstances according to EPA's General Counsel. Exclusion of control measures due to lack of time, authority, or funding are not acceptable justifications for use of this approach.
  - *Comment (Anna Garcia, MANE-VU):* MANE-VU will be trying to develop draft SIP language that will pass EPA muster on this issue, and would like EPA feedback.
  - *Comment (Rob Sliwinski, New York):* The reality is that these are non-enforceable SIPs, and despite the requirements EPA will be getting committal SIPs from all states.
  - *Comment (Michelle Notarianni, EPA):* EPA has no flexibility to change the regional haze SIP deadline due to statutory constraints, and they will have to see what is submitted and react accordingly. States should contact their Regional Office if they expect their SIP to be late.
  - *Comment (Beverly Banister, EPA):* There is a meeting of the EPA Region III Air Directors in mid-September. These issues are foremost on the agenda, and she will share the discussion results afterwards if there is anything new to add to what was discussed today..
- *Question (Rob Sliwinski, New York):* Will EPA do regional haze FIPs?
  - *Answer (Michelle Notarianni, EPA):* I have no answer on that at this time. The Agency has made no decision at this point as to how it will handle late regional haze SIPs. Again, States should contact their Regional Office if they expect their SIP to be late.
- *Comment (Susan Wierman, MARAMA):* EPA should consider providing incentives outside of the SIP process like Early Action Compacts for ozone attainment. Also, EPA does not have the time to do regional haze FIPs.
- *Comment (Michelle Notarianni, EPA):* Thank you for your comment. We can share this with the national EPA workgroup. Note that Region 8 is presently working on a FIP for Montana.

#### **Presentation by Susan Wierman, MARAMA**

- Review of IPM emissions bar charts and future EGU strategies showing that it is feasible to do more than CAIR.

#### **Roundtable Discussion on Reasonable Progress Goals and Reasonable Measures**

States continued the consultation with a roundtable discussion 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 VISTAS states and from the U.S. EPA. Anna Garcia, MANE-VU, noted that MANE-VU will have health benefits information related to regional haze strategies in the fall.

## **Boiler MACT, ICI Boilers, and Pulp and Paper Sector**

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 providing the possibility for states to work together on this sector. The National Association of Clean Air Agencies (NACAA) is discussing with its members and the Ozone Transport Commission (OTC) and Northeast States for Coordinated Air Use Management (NESCAUM) 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<sub>x</sub> and SO<sub>2</sub> emissions from the boiler sector and develop options for control strategies, separate from the MACT levels.

MANE-VU opened up the discussion on ICI boilers noting the recent agreement with the MRPO states to reconvene the ICI Boiler Workgroup for a collaborative effort in that sector and how VISTAS had indicated on the Open Technical Call was an area of interest to them. MANE-VU inquired whether VISTAS states would be interested in joining in such a collaborative effort. VISTAS expressed interest, inquiring as to whether policy or technical work would be needed and noting that it is very difficult to justify higher costs to the ICI sector when more cost-effective EGU reductions are still available. MANE-VU indicated that there will be a need for more cost and inventory work and possibly some health benefits analysis in order to build a case for ICI boiler reductions, and that there is an opportunity for coordination with NACAA on the upcoming Boiler MACT work. NESCAUM indicated that they will have a draft study on this sector out by the end of the year, and MANE-VU offered to share information and continue discussions to see what approaches states in both regions may be interested in taking.

VISTAS inquired whether MANE-VU had had any stakeholder feedback on the 4-factor analysis. MANE-VU replied that there had been no specific comments on the analysis; however, the Northeast states have been engaged in discussions with the oil industry on low-sulfur fuel oil. Maine added that it has had discussions with its sources that use residual oil. New Hampshire also noted that at a recent Council of Industrial Boilers meeting, most of the attendees accepted that it is only a matter of time before more reductions will be expected from this sector.

The ICI sector discussion moved to the pulp and paper industry. Georgia stated that they are getting comments from that industry questioning the level of control costs that is considered to be cost-effective, and noted that the state has not made any decisions on a bright line. New York commented that it does not make sense for states to pursue trying to define bright line costs individually, so we should keep the lines of communication open between our regions. VISTAS informed the group that EPA currently has a pulp and paper sectors strategy process with a multi-pollutant aspect, so it is a good time to get involved in that process. According to EPA, a draft preamble and model rule language for that process is due out towards the end of September. New York cautioned that states should understand what is contained in that pulp and paper model rule to see if any facilities are given a pass.

### Follow up items from this discussion include:

- Identify VISTAS states interested in participating with MANE-VU and MRPO states on a boiler workgroup to examine potential sector controls, costs and health benefits;
- Review draft preamble and model rule language of EPA's pulp and paper sector strategy for discussion and comment; and
- Coordinate with NACAA's Boiler MACT effort.

### **Locomotive and Marine Sectors**

MANE-VU then moved the discussion to focus on potential opportunities for emissions reductions from locomotives and ocean-going vessels. According to VISTAS, those emissions represent <1% of total SO<sub>2</sub> emissions, so they are not important in the big picture, and that, in fact, in the Gulf states those emissions may be blowing out of the domain. They noted, however, that it is also important to look at ozone and PM<sub>2.5</sub> nonattainment issues in port cities, including inland Mississippi River ports, where reductions of those emissions may be more important but have ancillary benefits for regional haze. Maine added that an outcome from the MRPO consultation was that benefits from reductions from these sources are important to the MRPO states. MANE-VU suggested that a unified inter-RPO position for a national “ask” for this sector may be possible

#### Follow up items from this discussion include:

- Examine potential for ancillary benefits for regional haze from potential controls on port emission sources to reduce ozone and PM 2.5.

### **The National “Ask,” and EGU and non-EGU Sectors**

The group then turned to the EGU sector and a discussion of the potential for an inter-RPO dialogue on beyond-CAIR issues. The National Park Service noted that, given that the total EGU SO<sub>2</sub> reductions identified by VISTAS states in correcting IPM output was less than the CAIR budget, that VISTAS states may want to consider supporting a national “ask” concept outlined by MANE-VU. EPA Region IV asked whether MANE-VU had discussed the national “ask” with anyone in EPA, and MANE-VU explained that the “ask” is based on a CAIR Plus analysis presented at an OTC meeting attended by Sam Napolitano, Bill Harnett, and Peter Tsirigotis, and that the OTC modeling analysis showed that a program that includes the entire CAIR domain is needed for an effective beyond-CAIR program. The OTC is currently re-examining its multi-pollutant position. Some VISTAS states did express interest in exploring the idea of a next phase of CAIR, and continuing discussions with MANE-VU on the national “ask,” noting that additional reductions will be needed later for attainment of the new ozone and 24-hour PM standards.

Discussion followed on what information would be needed to help the VISTAS states in reviewing a national “ask” calling for a third phase of CAIR. One critical piece of information identified by VISTAS is a better understanding of the ozone benefits that a CAIR Plus strategy would yield since regional haze may provide insufficient leverage as a driver for a beyond-CAIR strategy. For those states ozone and/or the new 24-hour PM<sub>2.5</sub> standard is a more significant driver. It was noted, however, by MANE-VU that regional haze can be the driver if supplemented by information on reductions in premature mortality that yield benefits of at least a factor of ten as compared to costs, and that the MRPO states interested in supporting the national “ask” are mainly looking at it for PM 2.5 benefits.

During the discussion about the MANE-VU “ask” for a 90% reduction from EGUs on the list of 167 stacks, MANE-VU states indicated that it would be helpful to also see an updated list of controls for the list of 167 units as well as any large non-EGUs not on the list.

As the focus of discussions turned to non-EGUs, VISTAS commented that at this time only two states have completed their BART determinations. MANE-VU added that their states are also still in the process of completing their BART determinations.

#### Follow up items from this discussion include:

- MANE-VU to revisit its multi-pollutant strategy;

- MANE-VU to provide benefits and other information on beyond-CAIR strategy to VISTAS;
- MANE-VU and interested VISTAS states to explore possibility of CAIR Phase III;
- Craft a revised national “ask” to reflect revised levels, as appropriate; and Exchange lists on updated controls anticipated on all EGUs.

### **Other Sectors**

MANE-VU brought up the topic of alternative fuels, explaining that there was discussion with MRPO about biofuels and asking if there was interest in VISTAS in this area. Kentucky and Georgia expressed interest, and Tennessee informed the group that they are looking to become a leader in cellulosic ethanol production.

New Jersey raised a question about the possibility of developing a model rule for residential wood combustion that would be more stringent than EPA’s rule for new fireplace units. VISTAS responded that residential wood combustion is not a big issue for them. The Forest Service noted that outdoor wood boilers are poorly controlled, with which Maine and New York agreed, commenting that larger commercial wood boilers are primarily a PM issue. However, it was pointed out by Vermont that particulate control is not cost-effective for smaller outdoor wood boilers.

#### 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.

### **Wrap-Up**

As the consultation drew to a close MANE-VU asked whether the VISTAS states had any requests to make of MANE-VU states, as the intent of the meeting is for an exchange between the two RPOs. VISTAS requested that MANE-VU share any 2018 data that differs from the MANE-VU version 3 emission inventory. MANE-VU confirmed that they would provide information on the low-sulfur fuel oil strategy, the EGU strategy, and BART controls to VISTAS.

#### Follow up items from this discussion include:

- Continue to share specific information about what MANE-VU and VISTAS 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.

### **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 VISTAS states agreed to continue the consultation dialogue over the next weeks and months. 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.

## MANE-VU Consultation Appendix

### Summary of Consultation between the MANE-VU States

In early 2007, New Hampshire provided other states in the MANE-VU region with the results of technical analyses that illustrated which states in the region have emissions that are reasonably anticipated to contribute to impairment in one or more of New Hampshire's Class I areas, including Great Gulf Wilderness and Presidential Range - Dry River Wilderness. NHDES sent a letter to these contributing states, inviting them to participate in consultations with New Hampshire and the other Class I states in MANE-VU to discuss ideas on the types and amounts of emissions reductions that are reasonable and, therefore, necessary to achieve reasonable progress in improving visibility at New Hampshire's Class I areas. The consultation calls and meetings that New Hampshire engaged in with our counterparts in the MANE-VU region over this last year served as a platform for comparing technical work and findings, discussing any adjustments that might be appropriate, and developing mutually beneficial solutions.

Representatives from the MANE-VU states have been meeting periodically since 2000 to review technical information and provide their perspectives and direction on the subsequent iterations of the analyses. The MANE-VU states established a more formal consultation process in 2007, beginning with an in-person meeting of the members in Washington, DC on March 1, 2007. At this meeting the states received information on the requirements of the regional haze rule and how to define reasonable progress in Class I areas. The states also discussed potential control options which, if determined to be reasonable, would be considered as part of the Class I states' long term strategy for making reasonable progress toward achieving natural conditions by 2064. This was followed by a second in-person consultation in Providence, RI on June 7, 2007. This second meeting comprised a review of technical analyses completed to date, discussion of a resolution outlining the principles the Class I states would be following in their consultations with contributing states, and examination of a set of statements developed by the Class I states outlining their requests for control measures to be pursued by contributing states, both in the MANE-VU region and outside of it, for the purpose of achieving reasonable progress in the MANE-VU Class I areas .

The MANE-VU Class I states made revisions to the resolution and statements as a result of the discussions that occurred at the June 7<sup>th</sup> meeting. The MANE-VU states then engaged in another consultation via conference call on June 20, 2007 to review the revised documents and vote on them. All member states on the consultation call voted to accept the resolution and statements, with the exception of New York and Vermont, who were unable to participate on the call. The MANE-VU executive staff followed up with both New York and Vermont by phone and email, and received their concurrence on the documents as well. Via the statement, the MANE-VU member states agreed to a course of action that includes pursuing the adoption and implementation of the following emission management strategies, as appropriate and necessary:

- timely implementation of BART requirements; and
- a low sulfur fuel oil strategy in the inner zone States (New Jersey, New York, Delaware and Pennsylvania, or portions thereof) to reduce the sulfur content of: distillate oil to 0.05% sulfur by weight (500 ppm) by no later than 2012, of #4 residual oil to 0.25% sulfur by weight by no later than 2012, of #6 residual oil to 0.3 – 0.5% sulfur by weight by no later than 2012, and to further reduce the sulfur content of distillate oil to 15 ppm by 2016; and

- a low sulfur fuel oil strategy in the outer zone States (the remainder of the MANE-VU region) to reduce the sulfur content of distillate oil to 0.05% sulfur by weight (500 ppm) by no later than 2014, of #4 residual oil to 0.25 – 0.5% sulfur by weight by no later than 2018, and of #6 residual oil to no greater than 0.5 % sulfur by weight by no later than 2018, and to further reduce the sulfur content of distillate oil to 15 ppm by 2018, depending on supply availability; and
- a 90% or greater reduction in sulfur dioxide (SO<sub>2</sub>) emissions from each of the electric generating unit (EGU) stacks identified by MANE-VU (Attachment 1- comprising a total of 167 stacks – dated June 20, 2007) as reasonably anticipated to cause or contribute to impairment of visibility in each mandatory Class I Federal area in the MANE-VU region. If it is infeasible to achieve that level of reduction from a unit, alternative measures will be pursued in such State; and
- continued evaluation of other control measures including energy efficiency, alternative clean fuels, and other measures to reduce SO<sub>2</sub> and nitrogen oxide (NO<sub>x</sub>) emissions from all coal-burning facilities by 2018 and new source performance standards for wood combustion. These measures and other measures identified will be evaluated during the consultation process to determine if they are reasonable and cost-effective.

In addition, the long-term strategy accepted by the MANE-VU states to reduce and prevent regional haze allows each state up to 10 years to pursue adoption and implementation of reasonable and cost-effective NO<sub>x</sub> and SO<sub>2</sub> controls.

Through the MANE-VU states' acceptance of the emission management strategies outlined in the statements on the June 20<sup>th</sup> call, they confirmed the set of actions the MANE-VU states will pursue in their state implementation plans (SIPs) to provide reasonable progress toward improved visibility by 2018, the first milestone in meeting the long-term regional haze goals for each Class I area. The MANE-VU Air Directors also consulted on issues concerning the emission management strategies outlined in the statements on three subsequent conference calls. During the September 26, 2007 call, participants discussed how to interpret the emission management strategies in the statements for purposes of estimating visibility impacts via air quality modeling. On February 28, 2008 the MANE-VU states received the results of the final 2018 modeling runs. Finally, on the March 21, 2008 call the states discussed the process for establishing reasonable progress goals for the MANE-VU Class I areas.

Summaries of the individual meetings and calls referenced above follow, along with copies of the final resolution and statements accepted by the MANE-VU member states.

Listing of consultation summary documentation:

1. Intra-MANE-VU Consultation Meeting Summary, March, 1, 2007, Washington, DC
2. Intra-MANE-VU Consultation Meeting Summary, June 7, 2007, Washington, DC
3. Intra-MANE-VU Consultation Conference Call Summary, June 20, 2007
4. Intra-MANE-VU Consultation Conference Call Summary, MANE-VU Air Directors, March 31, 2008
5. Resolution of the Commissioners of States with Mandatory Class I Federal Areas Within the Mid-Atlantic Northeast Visibility Union (MANE-VU) Regarding Principles for Implementing the Regional Haze Rule, adopted June 20, 2007

6. Statement 1: Statement of the Mid-Atlantic/Northeast Visibility Union (MANE-VU) Concerning a Course of Action Within MANE-VU Toward Assuring Reasonable Progress, adopted June 20, 2007
7. Statement 2: Statement of the Mid-Atlantic/Northeast Visibility Union (MANE-VU) Concerning a Request for a Course of Action by States Outside of MANE-VU Toward Assuring Reasonable Progress, adopted June 20, 2007
8. Statement 3: Statement of the Mid-Atlantic/Northeast Visibility Union (MANE-VU) Concerning a Request for a Course of Action by the U.S. Environmental Protection Agency (EPA) Toward Assuring Reasonable Progress, adopted June 20, 2007
9. Attachment to Statements 1 and 2: List of 167 EGU stacks, dated June 20, 2007

**Intra-MANE-VU Consultation Meeting Summary**  
**March 1, 2007**  
**Washington DC**

**Introduction**

The Mid-Atlantic/Northeast Visibility Union (MANE-VU) held an in-person consultation meeting of the region's states on March 1, 2007 in Washington DC. The purpose of the consultation meeting was to fulfill the requirements of 40 CFR 51.308(d)(1)(B)(iv) and (3)(i) for Class I states to consult with contributing states on developing reasonable progress goals for the region's seven mandatory federal Class I areas, and for all contributing states to consult on the development of coordinated emission management strategies. All MANE-VU states were invited to participate along with the region's Federal Land Managers (FLMs) from the National Park Service, Fish & Wildlife Service, and Forest Service, and the Environmental Protection Agency (EPA) regional representatives from Regions I, II, and III.

Topics discussed included:

- 1) An overview of the regional haze program's goals and requirements;
- 2) A review of the uniform progress glidepaths and anticipated status of visibility impairment in 2018 in the seven MANE-VU mandatory federal Class I areas; and
- 3) A review of an analysis based on the Clean Air Act's statutory factors of what controls may be considered reasonable, and 4) Discussions of reasonable control options by source sector.

**Key Outcomes of the Consultation**

- As an overriding principle, MANE-VU looks for equivalent reductions, not equal reductions across source categories.
- A low-sulfur fuel oil strategy is viable as a MANE-VU 2018 control measure, at a 500 ppm sulfur limit in the near-term, and a 15 ppm goal for distillate in 2018.
- Sulfur limits on #4 and #6 fuel oil require more analysis, and oil-fired EGUs with scrubbers will need flexibility.
- The ICI boiler sector needs further analysis as to what controls may be reasonable, especially from small and medium-sized boilers.
- If it is reasonable for MANE-VU to achieve a 40% sulfur reduction in the non-EGU sector, it may also be reasonable that contributing states in other RPOs could find equivalent reasonable reductions.
- There was no real consensus on controls on residential wood / open burning as a regional strategy, as what can be achieved in these sectors varies widely from state to state.
- MANE-VU Class I states will conduct a series of separate phone calls to develop a proposal for moving forward on consultations and developing reasonable control options.
- The MANE-VU states agreed to keep working towards implementing reasonable regional controls, which would be discussed at the next MANE-VU consultation meeting in June 2007.

## **Attendees**

### **States and Tribes:**

Maine (Class I state) – David Littell, Jeff Crawford  
New Hampshire (Class I state) – Jeff Underhill  
New Jersey (Class I state) – Lisa Jackson, Nancy Wittenberg, Chris Salmi  
Vermont (Class I state) – Justin Johnson, Dick Valentinetti, Paul Wishinski  
Connecticut – Anne Gobin  
Delaware – Ali Mirzakhilili  
District of Columbia – Diedre Elvis-Peterson, Abraham Hagos  
Maryland – Tad Aburn  
Massachusetts – Arleen O’Donnell, Barbara Kwetz  
Pennsylvania – Tom Fidler, Joyce Epps, Wick Havens  
New York – Dave Shaw, Rob Sliwinski

### **Federal Land Management Agencies and EPA Regional Offices:**

National Park Service – Bruce Polkowsky, John Bunyak  
Forest Service – Anne Mebane, Anne Acheson, Andrea Stacey  
Fish and Wildlife Service – Sandra Silva, Tim Allen  
EPA Region I – Anne Arnold  
EPA Region III – Makeba Morris, Neil Bigioni

## **Welcome and Introductory Remarks**

David Littell, MANE-VU Vice-Chair and Commissioner of Maine’s Department of Environmental Protection, opened the consultation with a welcome and introductions around the room. Mr. Littell followed with a presentation entitled “Bringing Clear Views to Acadia National Park and Other Class I Areas.” Acadia National Park is one of three mandatory Class I areas in Maine while New Hampshire has two, and Vermont and New Jersey each have one. Mr. Littell noted that annual visitation at Acadia is over 2 million visits a year leading to visitor spending of more than \$127 million in 2005, and surveys indicate that a clear vista is a strong factor in a visitor’s positive experience at the park.

Mr. Littell then provided an overview of the goals for today’s consultation, including:

- Review requirements, resources and critical timing issues to ensure all share a common understanding;
- Discuss options for control measures to identify what is reasonable in MANE-VU;
- Identify impediments to implementing control measures and discuss how to address them;
- Identify links between haze, PM, and ozone strategies that help define what’s reasonable;
  
- Define reasonable progress for MANE-VU Class I Areas in terms of control measure options; and
- Summarize points of agreement and identify issues for follow-up consultation.

## **Overview of MANE-VU Consultation**

Anna Garcia, MANE-VU Deputy Director, followed with a presentation entitled “Timing, Contribution, and Consultation.” Noting that multiple methods show consistent conclusions about which states are top contributors and that a single MANE-VU consulting group offers the best opportunity to engage contributing states in a meaningful consultation process, Ms. Garcia emphasized that the MANE-VU

states need to make sure we know what we are asking of the states within MANE-VU before consulting with contributing states outside of MANE-VU. Today's consultation is the first formal intra-MANE-VU consultation being held to develop MANE-VU's "clean hands" position and to start the process of determining reasonable control measures by MANE-VU states for the December 2007 Regional Haze State Implementation Plan (SIP) submissions.

### **MANE-VU Regional Haze Goals**

Paul Wishinski from Vermont's Department of Environmental Conservation followed with a presentation entitled "Overview of Program Requirements for the Regional Haze Rule." Under the regional haze regulations, both the reasonable progress goals to be set by the Class I states and the long-term coordinated emissions strategies to meet the reasonable progress goals require consultations with contributing states and the Federal Land Managers (FLMs). Mr. Wishinski concluded, as did Ms. Garcia before, that the key next step is for the MANE-VU states to agree on what they believe are reasonable control measures for visibility improvement at the MANE-VU Class I areas.

Jeff Underhill from New Hampshire's Department of Environmental Services followed with a presentation entitled "Status of Visibility at MANE-VU Class I sites and Modeling for the Regional Haze Rule." Based on modeling results, Mr. Underhill concludes that all of MANE-VU's seven mandatory Class I areas will likely be below the uniform progress line in 2018 with "on-the-books" controls plus 500 ppm maximum sulfur limit for #2 distillate, except in Delaware and Vermont. However, more progress can be made through additional reasonable measures, and the Regional Haze Rule requires us to consider these measures via the consultation process with contributing states.

### **Developing Reasonable Progress for MANE-VU Class I Areas**

Art Werner of MACTEC Federal Programs, Inc., MANE-VU's contractor for the four-factor reasonable progress project, followed with a presentation on the preliminary results of that project. Mr. Werner reviewed the four factors that need to be analyzed to determine which emission control measures are needed to make reasonable progress in improving visibility: 1) the costs of compliance, 2) the time necessary for compliance, 3) energy and nonair quality environmental impacts of compliance, and 4) the remaining useful life of any source subject to such requirements. Mr. Werner also presented a preliminary marginal cost figure of \$1,390/ton (1999\$) of SO<sub>2</sub> in 2018 from a recent MANE-VU-sponsored IPM run for a "CAIR Plus" policy. The final report due in May will provide a methodology for addressing reasonable progress and inform the MANE-VU states on control measure costs for both priority source categories and selected individual sources for upcoming consultations on setting the reasonable progress goals for the MANE-VU mandatory Class I areas.

### **Assessing Control Options**

The final presentation by Chris Salmi with New Jersey's Department of Environmental Protection entitled "Reasonable Measure Opportunities" emphasized that the MANE-VU Class I states intend to focus their reduction efforts for the 2018 milestone on sulfur dioxide reductions since they cause, on average, nearly 80% of the visibility impairment on the 20% worst days. Mr. Salmi presented recent control measure analyses showing that MANE-VU sources can reasonably achieve over 200,000 tons of SO<sub>2</sub> reductions in 2018 from non-EGU control measures, primarily from ICI coal and oil-fired sources, a

low-sulfur distillate strategy, and controls on Best Available Retrofit Technology (BART) sources. Mr. Salmi concluded his presentation by posing two questions for the members:

- 1) What measures does MANE-VU consider reasonable for 2018?, and
- 2) What measures do we ask others to implement?

The questions began a roundtable discussion initiated by Ms. Garcia's intentionally broad question to the members asking what is reasonable.

### **Summary of Discussion**

NESCAUM suggested, and New Hampshire agreed that as an overriding principle what MANE-VU is looking for is equivalent reductions, not equal reductions across source categories. The discussion segued to what MANE-VU can reasonably accomplish for a low-sulfur fuel oil strategy. The members agreed that this is a prime example of a source category where MANE-VU can make reasonable reductions due the widespread use of distillate for residential and commercial heating. Other states primarily outside of MANE-VU do not have a similar reliance on fuel oil for heating, so they could make equivalent reasonable reductions from other source categories to match MANE-VU's heating oil sulfur reductions.

Further discussion continued with respect to two potentially reasonable fuel-oil strategies for the MANE-VU region, dubbed S1 and S2:

- S1 is less stringent and envisions a 75% reduction in sulfur content to 500 ppm by 2018 for home heating / distillate, and 50% reductions in sulfur content for #4 and #6 fuel oils.
- S2 envisions a 99.25% reduction in sulfur content to 15 ppm by 2018 for home heating / distillate, and the same 50% reductions for #4 and #6 as in S1.

New Hampshire suggested the need to move carefully due to the concerns about price and supply issues. Vermont countered that there is a 10-year timeframe to accomplish a low-sulfur fuel oil strategy. Pennsylvania suggested that a 500 ppm strategy is reasonable, but timing is important. Vermont added that the Northeast states have been discussing low-sulfur fuel oil strategies for ten years already, and that two or three states such as New York, New Jersey, and Connecticut need to go first and pass regulations to catalyze regional negotiations with industry. New Jersey noted that New Jersey has started their rulemaking process on low-sulfur fuel oil; New York added that New York has started their rulemaking process for 500 ppm for distillate by 2018. Connecticut said that Connecticut's fuel standards are set by statute, and the statute precludes Connecticut from lowering its fuel-oil standards until neighboring states Massachusetts and Rhode Island do so as well, presumably for regional supply reasons.

Continuing the low-sulfur fuel oil discussion, Pennsylvania asked if EPA has been approached on a national low-sulfur fuel oil strategy. New Jersey replied that EPA is not focusing on this area, leaving it to the states. NESCAUM added that the industry believes that part of the deal with EPA for accomplishing the 15 ppm on-road ultra low-sulfur diesel (ULSD) standard is that there will be no more sulfur reductions expected. MANE-VU noted that in recent discussions, the industry suggested it was possible to achieve a 15 ppm sulfur level for distillate within a 2014 timeframe. Massachusetts said that it may be difficult for Massachusetts to commit to a 15 ppm sulfur level in distillate by 2018, noting, however, that the positive co-benefits of greater furnace efficiency and therefore lower GHG emissions

might help in instituting a 15 ppm sulfur level in distillate regulation. New Jersey emphasized that we have a decade to accomplish a 15 ppm sulfur standard for distillate.

MANE-VU asked the group about what might work in terms of lower sulfur limits in #4 and #6 fuel oils. Pennsylvania said that Pennsylvania has various sulfur limits and they would need more time to analyze such limits. New Jersey noted that these low-sulfur fuels are already available as some New Jersey counties are already below 5000 ppm sulfur. Maine questioned what limits on #6 fuel oil would mean for those oil-fired EGUs that have scrubbers.

MANE-VU wrapped up the low-sulfur fuel-oil discussion asking the group if the S1 strategy was viable as a MANE-VU 2018 region haze control measure. The consensus was that a 500 ppm sulfur limit “near-term” and a 15 ppm “goal” for distillate in 2018 is viable. For #4 / #6 sulfur limits, the consensus was that more work needs to be done, and that flexibility should be provided to states that have scrubbers on their oil-fired EGUs.

The consultation moved on to sulfur reductions from the coal-fired ICI (Industrial, Institutional, and Commercial) sector and whether MANE-VU can include such reductions in a non-EGU strategy bundle at this time. Pennsylvania suggested that controls for small-to-medium size boilers (<100 MM Btu / hour heat input) may not be cost-effective, adding that a 50% reduction in sulfur emissions from coal-fired ICI sources may overestimate what can realistically be achieved. New Hampshire suggested that recent analysis by New Hampshire staff on installation costs should be considered. Maine added that this sector may be a viable source for other RPO states to achieve reasonable sulfur reductions from their non-EGU sectors that are equivalent to the 40% sulfur reductions expected from non-EGU sources within MANE-VU due to the low-sulfur fuel oil strategy.

The consensus concerning sulfur reductions from the coal-fired ICI sector was that there is a need for more analysis to determine what is reasonable to obtain sulfur reductions from small and medium-sized coal-fired boilers. There was also consensus that if MANE-VU achieves overall reasonable sulfur reductions in the 40% range from the non-EGU sector, then other RPOs could find equivalent reasonable reductions.

Discussions moved on to other potential regional haze control measures within MANE-VU. For lime and cement kilns, both Pennsylvania and New York agreed that there is wide variability in these sources. Pennsylvania suggested that lime kiln controls are not cost-effective, and that an EPA global settlement on cement kilns was coming soon anyway. New York added that they will be regulating its three cement kilns as BART sources.

For the residential wood combustion / open burning source category, there was general consensus on including outdoor wood boilers in this category. New Jersey encouraged greater use wood stove changeout programs. New Hampshire replied that what can be done on wood combustion varies from state to state, and, for example, in New Hampshire new wood stove standards would be acceptable, but not changeout programs. New York added that open burning bans are unenforceable, especially in rural areas. There was little consensus on control measures in this source category, especially considering that the primary pollutants of concern are organic carbon and direct particulate matter, and not sulfur which is the primary regional haze pollutant within MANE-VU for the first planning milestone in 2018.

The Intra-MANE-VU Consultation Meeting adjourned.

**Intra-MANE-VU Consultation Meeting**  
**June 7, 2007**  
**Providence, Rhode Island**

**Introduction**

The Mid-Atlantic/Northeast Visibility Union (MANE-VU) held an in-person consultation meeting of the region's states on June 7, 2007 in Washington DC. The purpose of the consultation meeting was to fulfill the requirements of 40 CFR 51.308(d)(1)(B)(iv) and (3)(i) for Class I states to consult with contributing states on developing reasonable progress goals for the region's seven mandatory federal Class I areas, and for all contributing states to consult on the development of coordinated emission management strategies. All MANE-VU states were invited to participate along with the region's Federal Land Managers (FLMs) from the National Park Service, Fish & Wildlife Service, and Forest Service, and the Environmental Protection Agency (EPA) regional representatives from Regions I, II, and III.

Topics discussed included: 1) the process for setting reasonable progress goals by the MANE-VU Class I states; 2) an approach for intra-MANE-VU consultation including control strategy development within MANE-VU for setting the reasonable progress goals; 3) an approach for consulting with states outside of MANE-VU on the reasonable progress goals to be established by the MANE-VU Class I states; and 4) the next steps in the consultation process.

**Key Outcomes of the Consultation**

- All of the MANE-VU states agreed that a resolution setting out the principles by which the Class I states will implement the regional haze rule should go to the MANE-VU Board for approval, although the document was to be signed only by the MANE-VU Class I states.
- Two separate draft statements on courses of action by states within and outside MANE-VU for assuring progress towards the MANE-VU Class I States' reasonable progress goals were tabled until a corrected list of 167 EGU stacks impacting visibility in the MANE-VU Class I areas could be generated. The MANE-VU states agreed that they would vote by conference call once the corrected 167 EGU stack list became available.

**Attendees**

**States:**

Maine (Class 1 state) – David Littell  
New Hampshire (Class 1 state) – Bob Scott, Jeff Underhill  
Vermont (Class 1 state) – Justin Johnson, Dick Valentinetti  
New Jersey (Class 1 state) – Lisa Jackson, Nancy Wittenberg, Chris Salmi  
Connecticut – Dave Wackter  
Delaware – Ali Mirzakilili  
District of Columbia – Cecily Beall  
Massachusetts – Arleen O'Donnell, Barbara Kwetz  
Maryland – Tad Aburn  
New York – Dave Shaw  
Pennsylvania – Tom Fidler, Joyce Epps, Wick Havens  
Rhode Island – Michael Sullivan, Steve Majkut

### **Federal Land Management Agencies and EPA Regional Offices:**

National Park Service – Bruce Polkowsky (in person), Holly Salazar (on phone)

Fish & Wildlife Service – Tim Allen (on phone)

Forest Service – Ann Mebane, Ann Acheson (on phone)

EPA Region III (on phone)

### **Welcome and Introductions**

David Littell, MANE-VU Vice-Chair and Commissioner of Maine’s Department of Environmental Protection, opened the consultation with a welcome and introductions around the room, including those on the phone. Anna Garcia, MANE-VU Deputy Director, followed with a brief outline of the goals for the consultation, including an update on recent technical work and discussions of the proposed MANE-VU Class I states resolution on consultation principles, a proposed statement on control measures within the MANE-VU region for achieving reasonable progress goals, and a proposed statement on controls outside of the MANE-VU region for achieving reasonable progress goals.

### **Status of Technical and Policy Work Issues**

Gary Kleiman, NESCAUM, led this session with an update of the recent technical work, including preliminary modeling results. All seven of the MANE-VU Class I areas will be below the uniform rate of progress in 2018 according to preliminary modeling results. Tad Aburn, Maryland, asked the Federal Land Managers (FLMs) if the MANE-VU technical approach is satisfactory. Bruce Polkowsky, National Park Service, replied that the other eastern RPOs are doing similar work and achieving better than uniform progress but have different approaches to reasonable progress. Tim Allen, Fish and Wildlife Service, commented that MANE-VU is not taking as much of a chemistry-intensive approach as other RPOs, and MANE-VU will likely need to address nitrates and organics in the next regional haze planning phase after 2018. Mr. Allen added that he is very supportive of obtaining as many reductions as possible now as they will only be more difficult to obtain later.

Chris Salmi, New Jersey Department of Environmental Protection, followed with a presentation on MANE-VU’s approach to fulfilling the regional haze rule’s reasonable progress requirement. The statutory four-factor analysis for control strategies for visibility-impairing source sectors provides the central focus for the Class I states’ determination of what is reasonable. Finally, Anna Garcia ended the session with a brief presentation on the process by which MANE-VU chose the regional source sectors that were included in the four-factor analysis.

### **Roundtable Discussions**

The MANE-VU states began their consultation with a roundtable discussion of the draft resolution by the MANE-VU Class I states on principles for implementing the regional haze rule, including the requirement for consulting with contributing states on reasonable progress. After minor wording changes, the states then agreed to seek Board approval although the resolution would be signed only by the MANE-VU Class I states.

Roundtable discussions ensued on the two proposed statements, one on control strategies within the MANE-VU states for assuring reasonable progress, and the other for states outside MANE-VU. When it became clear that more work needed to be done so all states were comfortable with the final list of 167

EGU stacks having the greatest visibility impact on the MANE-VU Class I areas, the states agreed to postpone voting on the statements until a later date by conference call.

A final discussion on a draft statement on requesting further action by the U.S. Environmental Protection Agency (EPA) on tightening the CAIR program for assuring reasonable progress also occurred. The states also agreed to table a vote on this statement until a conference call.

### **Consultation Next Steps**

A brief discussion on next consultation steps, especially with the Regional Planning Organizations outside of MANE-VU also occurred. Those steps include:

- Consulting within and outside MANE-VU about which control strategies are reasonable;
- Deciding how to include the strategies in the final statements in modeling;
- Determining goals based on final modeling;
- Pursuing the adoption of enforceable emissions limits & compliance schedules; and
- Evaluating progress in 5 years.

**Intra- MANE-VU Consultation Conference Call Summary  
June 20, 2007**

**Introduction**

On June 20, 2007 the MANE-VU Commissioners and Air Directors participated on a conference call to continue consultation discussions on emission management strategies for the region to pursue to achieve reasonable progress toward natural conditions in the region's Class I areas. The MANE-VU state Members completed their review of a resolution and three statements proposed by the Class I states to the larger MANE-VU membership, and voted to accept these documents and confirm the set of actions the MANE-VU states will pursue in their state implementation plans (SIPs) to provide reasonable progress toward improved visibility by 2018, the first milestone in meeting the Class I areas' long-term regional haze goals.

**Attendees**

**States, Tribes and MSOs:**

Maine (Class 1 state) – David Littell, Jeff Crawford  
New Hampshire (Class 1 state) – Jeff Underhill, Andy Bodnarik  
New Jersey (Class 1 state) – Chris Salmi  
Connecticut – Anne Gobin  
Delaware – Ali Mirzakalili  
District of Columbia – Cecily Beall  
Massachusetts – Barbara Kwetz  
Maryland – Tad Aburn, Andy Hildebride  
New York – Dave Shaw  
Pennsylvania – Tom Fidler, Joyce Epps, Wick Havens  
Penobscot Tribe – John Banks, Bill Thompson  
Rhode Island – Steve Majkut  
NESCAUM – Arthur Marin, Gary Kleiman

**Consultation Discussions**

The MANE-VU states voted on and passed three statements, which are attached to this summary, with some minor changes. The three statements are entitled as follows:

1. Statement of the Mid-Atlantic/Northeast Visibility Union (MANE-VU) Concerning a Course of Action Within MANE-VU Toward Assuring Reasonable Progress;
2. Statement of the mid-Atlantic/Northeast Visibility Union (MANE-VU) Concerning a Request for a Course of Action by States Outside of MANE-VU Toward Assuring Reasonable Progress; and
3. Statement of the Mid-Atlantic / Northeast Visibility Union (MANE-VU) Concerning a Request for a Course of Action by the U.S. Environmental Protection Agency (EPA) Toward Assuring Reasonable Progress.

The final versions of the statements which were accepted via the vote reflect the following changes:

- agreement on the list of EGU stacks, which is attached to both Statement 1 and 2, and revising the table to remove columns listing plant type, SO2 tons per year and rank, and changing the bottom notes accordingly (see explanation below);
- removal of the phrase "top 100" from the 4th action bullet on Statement 1 and the 2nd action bullet on Statement 2 (regarding 90% reduction from EGUs);
- correction of the date for 500 ppm low sulfur fuel oil to "by no later than 2012" (I made the error of changing that date to "2014" in translating the Consultation comments - it should be 2012 as for the other inner zone fuel requirements);
- revision of the last paragraph in Statement 3 to delete "beyond 2018 CAIR levels" and replace it with "by no later than 2018"; and
- a change in the signature line on all three statements to "Adopted by the MANE-VU States and Tribes on (date)."

In addition, the members agreed to keep the columns that were deleted from the abbreviated "167 stacks" table as part of the larger spreadsheet of the 167 stacks that MARAMA produced and to make that document part of a technical support document to Statements 1 and 2. The columns were deleted to keep the table simple and to reduce confusion about tons per year information used in the modeling vs. tons per year information in the Acid Rain Database, in which there are some differences. Attachment 1 to the Statements refers to the 2002 tons per year information from the MANE-VU Contribution Assessment at the bottom of the table.

The MANE-VU states also confirmed that, if it is infeasible for the oil/gas units that are in New Hampshire and Maine to meet the 90% reduction for EGUs, meeting the low sulfur fuel oil requirements would be sufficient. In addition, the MANE-VU states will also credit early state actions (within a few years prior to 2002) toward the 90% target of reducing emissions from EGUs on the "167 stack" list.

The group also decided that the technical support document for the statements and the consultation summaries would be circulated to the MANE-VU states for their review and comment, and to get any further corrections to the more comprehensive table of 167 stacks (some states had changes to the plant types on the list).

#### Voting on the Statements

At the end of the call the states voted on whether they would accept each of the statement. For Statement 1, New Jersey moved that the statement be put up for a vote and Pennsylvania seconded the motion. All MANE-VU states on the call voted to accept Statement 1. On Statement 2, the Penobscot Tribe moved that it be considered for a vote and Massachusetts seconded the motion. Once again, all MANE-VU states on the call voted to accept Statement 2. Finally, for Statement 3, the Penobscot Tribe moved that it be considered for a vote and New Jersey seconded the motion. All MANE-VU states on the call voted to accept Statement 3.

New York and Vermont were unable to participate on the consultation conference call, so to ensure that all the MANE-VU member states are in agreement on these actions, the MANE-VU executive staff proposed to contact each state individual by phone and email to get their response to the vote on the statements. Within one day of the consultation conference call, the MANE-VU executive staff briefed New York and Vermont by phone and email and received their confirmation that they accepted all three statements as revised on the call.

## **Intra-MANE-VU Consultation – March 31, 2008 – MANE-VU Air Directors' Call**

### **States Attending the Consultation**

Maine (Class I state) – Jeff Crawford

New Hampshire (Class I state) – Jeff Underhill, Andy Bodnarik

New Jersey (Class I state) – Chris Salmi, Stella Oluwasuen-Apo, Peg Gardner

Connecticut – Dave Wackter

Delaware – Jack Sipple

District of Columbia – Cecily Beall

Maryland – Roger Thunell, Brian Hug

Massachusetts – Glenn Keith

New York – Gopal Sistla, Rob Sliwinski

Pennsylvania – Joyce Epps

Representatives of MANE-VU member states met via conference call on March 31, 2008.

During the call, NESCAUM modeling assumptions and results were reviewed, and the three Class I states present (Maine, New Hampshire, and New Jersey) confirmed that they would be relying on the results of that modeling to set their reasonable progress targets. The targets based on the modeling were included in the MANE-VU SIP Template draft that is posted on the MARAMA web site and will be sent to EPA for review. (Note: sent on 4/2/08)

Ms. Garcia agreed to share the results of the MANE-VU modeling with Virginia and West Virginia before the Stakeholder meeting on Friday, April 4.

Maine, New Hampshire, Vermont, and Massachusetts had met with oil companies and distributors concerning the MANE-VU low sulfur oil strategy. Stakeholders had expressed some concern about the 0.5% limit for residual oil, but states wanted to gather more information before deciding whether to make any changes in the MANE-VU strategy.

Participating states reviewed choices concerning the Long Term Strategy section of the SIP Template, and it was agreed that a document describing those choices would be revised and discussed further with EPA and FLM agency representatives. Individual MANE-VU states might make different choices with respect to language in their SIPs, and some gave indications of their preferences.

## **MANE-VU Approach to the Development of “Consulting Groups”**

On November 1, representatives from each RPO and the FLMs began a dialogue aimed at identifying groups of Class I areas that might serve to focus consultations for purposes of the regional haze rule. While it appears that consultations will be conducted state-to-state, the RPO representatives agreed that there may be a role for the RPO staff in identifying Class I areas with common visibility issues where a joint consultation process might be more efficient. At this point, the focus of the RPO efforts is to help identify common Class I “consulting groups” and leave it to the states involved in any future joint consultation process to discuss details regarding the nature and extent of state contributions to a common Class I group. Another role that the RPOs may play in the process is to assist with the scheduling of consultations so as to ensure that RPO-developed technical products would be ready and available to facilitate state discussions.

The Class I states within the MANE-VU RPO have considered the question of how best to group common Class I areas from the perspective of forming consulting groups. After reviewing monitoring and modeling data related to the sources of visibility impairment for each Class I site, they have proposed an approach that would create a single consulting group that encompasses all MANE-VU Class I sites. The “MANE-VU consulting group” would consist of the Acadia National Park, Maine; Brigantine Wilderness (within the Edwin B. Forsythe National Wildlife Refuge), New Jersey; Great Gulf Wilderness, New Hampshire; Lye Brook Wilderness, Vermont; Moosehorn Wilderness (within the Moosehorn National Wildlife Refuge), Maine; Presidential Range – Dry River Wilderness, New Hampshire; and Roosevelt Campobello International Park, New Brunswick.

The Class I states of MANE-VU recognize some differences between the Brigantine Wilderness and the northern tier of Class I sites in Vermont, New Hampshire and Maine. However, when viewed from the perspective of contributions to sulfate pollution – which is still the dominant form of visibility impairment experienced on the twenty percent worst visibility days at all MANE-VU sites – the group found more similarities than differences and felt that a single consulting group representing all MANE-VU sites offered the best opportunity to engage contributing states in a meaningful consultation process.

MANE-VU, therefore, proposes the addition of the MANE-VU consulting group to those already suggested by the Mid-West RPO in their October 19 memorandum. The revised “Table 1” on the next page reflects the proposed composition of the MANE-VU consulting group in a manner similar to that of the October 19 memo for three other proposed consulting groups. The MANE-VU Class I states are planning to contact those states listed in the proposed consulting group shortly to initiate the consultation process.

<b>RPO</b>	<b>State</b>	<b>MI/MN</b> (BOWA, VOYA, ISRO, SEN)	<b>AR/MO/KY</b> (UPBU, MINGO, HG, MACA)	<b>VA/WV</b> (DOSO, SHEN, JRIV)	<b>MANE-VU</b> (ACAD, MOOS, GRGU, LYBR, BRIG)
MANE-VU	Connecticut				X
	Delaware				X
	Maine				X
	Maryland			X	X
	Massachusetts				X
	New Hampshire				X
	New Jersey				X
	New York				X
	Pennsylvania			X	X
	Rhode Island				X
Vermont				X	
VISTAS	Alabama				
	Florida				
	Georgia				X
	Kentucky		X		X
	Mississippi				
	North Carolina				X
	South Carolina				X
	Tennessee		X		X
	Virginia			X	X
	West Virginia			X	X
MRPO	Illinois	X	X		X
	Indiana	?	X		X
	Michigan	X			X
	Ohio			X	X
	Wisconsin	X			
CENRAP	Arkansas		X		
	Iowa	X			
	Kansas				
	Louisiana				
	Minnesota	X			
	Missouri	?	X		
	Nebraska				
	Oklahoma				
Texas					
WRAP	N. Dakota	X			
	S. Dakota				
	Other Western States				
Canada	Manitoba				
	New Brunswick				X
	Ontario	X			X
	Quebec				X
	Other Provinces				

## MANE-VU Class I States' Consultation

- 1) When – August 6, 2007
- 2) Where – MRPO Offices, Chicago, Illinois

### \*\*\*\*\*Draft Agenda\*\*\*\*\*

10:00 am	States Caucus	MANE-VU and MWRPO States & RPO staff
10:30 am	Welcome & Introductions - Goals for Today's Meeting	David Littell, ME DEP Chair, MANE-VU
10:45 am	Overview of June's Open Technical Call & MANE-VU Consultation Briefing Book	Anna Garcia, OTC
11:00 am	Summary of Reasonable Progress Work for MANE-VU Class I Areas - Proposed "ask" by the MANE-VU Class I States - Where the MANE-VU RPG is in 2018 based on the "ask"	MANE-VU Class I State Representative
11:20 am	Clarifying Questions	All Participants
11:30 am	Summary of Reasonable Progress Work for MWRPO Class I Areas - Proposed "ask" by MWRPO Class I States - Where the MWRPO RPGs are in 2018	MWRPO Class I State Representative
11:50 am	Clarifying Questions	All Participants
12:00 pm	Lunch	
1:00 pm	EPA and FLM Perspectives on RPGs and Reasonable Measures Work	EPA and FLM Representatives
1:30 pm	Roundtable Discussion on Reasonable Progress Goals and Reasonable Measures	All Participants
2:45 pm	Preliminary Summary of Consultation Discussions - Areas with agreement - Areas with no agreement	
3:00 pm	Next Steps	
3:15 pm	End of Consultation	

**MANE-VU Class I States' Consultation  
Open Technical Call**

- 1) **When** – July 19, 2007, 2 hours, 20 mins (10:00 AM – 12:20 PM)
- 2) **Call-in Number** – 1-866-537-1634, passcode 7545482#

**\*\*\*\*\* Draft Agenda\*\*\*\*\***

10:00 am	Introductions and Roll Call; Purpose of Today's Call	Anna Garcia
10:15 am	Review of MANE-VU's Contribution Assessment	Gary Kleiman
10:35 am	Q & A's on Contribution Assessment	All participants
10:45 am	Review of MANE-VU Reasonable Progress Project	Susan Wierman
11:00 am	Q & A's on Reasonable Progress Project	All participants
11:15 am	Reasonable Progress and Long-Term Strategy in MANE-VU Class I Areas: -- Resolution on Consultations -- Request for a course of action from contributing states (within MANE-VU region and outside it) -- Request for National action (from EPA)	MANE-VU Class I States
11:35 am	Reasonable Progress and Long-Term Strategy Needs from States Outside of MANE-VU -- Needs from MANE-VU region states -- Needs for National action (from EPA)	MWRPO and VISTAS Class I States
12:10 am	Discussion	All participants
12:20 am	Next Steps: In-Person Consultations - August 2007	Anna Garcia