

APPENDIX F-4

Florida Department of Environmental Protection Division of Air Resource Management

Regional Haze SIP – MANE-VU Consultation

TABLE OF CONTENTS

<u>SUBJECT</u>	<u>PAGE</u>
Appendix F-4a MANE-VU Ask	2
Appendix F-4b VISTAS Response to MANE-VU	6
Appendix F-4c Florida DEP Response to MANE-VU Ask.....	10

Mid-Atlantic/Northeast Visibility Union
MANE-VU



*Reducing Regional Haze for
Improved Visibility and Health*

**STATEMENT OF THE MID-ATLANTIC/NORTHEAST VISIBILITY
UNION (MANE-VU) STATES CONCERNING A COURSE OF ACTION
IN CONTRIBUTING STATES LOCATED UPWIND OF MANE-VU
TOWARD ASSURING REASONABLE PROGRESS FOR THE SECOND
REGIONAL HAZE IMPLEMENTATION
PERIOD (2018-2028)**

The federal Clean Air Act (CAA) and Regional Haze rule require States that are reasonably anticipated to cause or contribute to impairment of visibility in mandatory Class I Federal areas to implement reasonable measures to reduce visibility impairment within the national parks and wilderness areas designated as mandatory Class I Federal areas. Most pollutants that affect visibility also contribute to ozone, fine particulate and sulfur dioxide (SO₂) air pollution. In order to assure protection of public health and the environment, any additional air pollutant emission reduction measures necessary to meet the 2028 reasonable progress goal for regional haze should be implemented as soon as practicable but no later than 2028.

According to the federal Regional Haze rule (40 CFR 51.308 (f)(2)(i) through (iv)), all states must consider, in their Regional Haze SIPs, the emission reduction measures identified by Class I States as being necessary to make reasonable progress in any Class I area. These emission reduction measures are referred to as "Asks." If any State cannot agree with or complete a Class I State's "Asks," the State must describe the actions taken to resolve the disagreement in their Regional Haze SIP. This Ask by the MANE-VU Class I states, was developed through a collaborative process with all of the MANE-VU states. It is designed to identify reasonable emission reduction strategies which must be addressed by the states and tribal nations through their regional haze SIP updates. This Ask has been developed and presented at this time so that SIPs may be developed and submitted between July of 2018 and July of 2021.

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

444 North Capitol Street, NW ~ Suite 322 ~ Washington, DC 20001
202.508.3840 p ~ 202.508.3841 f

The following states identified by MANE-VU as contributing to visibility impairment at MANE-VU Class I areas should address this “Ask” in their regional haze SIP updates in addition to any other Class I area state “Ask”; Alabama, Florida, Illinois, Indiana, Kentucky, Louisiana, Michigan, Missouri, North Carolina, Ohio, Tennessee, Texas, Virginia, and West Virginia. There is a separate “Ask” to address visibility impairing emissions from MANE-VU states. Contributing state methodology is documented in a MANE-VU report; “Selection of States for MANE-VU Regional Haze Consultation (2018)”, using actual 2015 emissions for EGUs and 2011 for other emission sources.

In addressing the emission reduction strategies in the Ask, states will need to harmonize any activity on the strategies in the Ask with other federal or state requirements that affect the sources and pollutants covered by the Ask. These federal and state requirements include, but are not limited to:

- The 2010 SO₂ standard,
- The Regional Greenhouse Gas Initiative (RGGI), if applicable,
- The Mercury and Air Toxics Standards (MATS), and
- The new 2015 ozone standard.

Because of this need for cross-program harmonization and because of the formal public process required by the federal CAA and state rulemaking processes, it is expected that there will be opportunities for stakeholders and the public to comment on how states intend to address the measures in the Ask.

To address the impact on mandatory Class I Federal areas within the MANE-VU region, the Mid-Atlantic and Northeast States will pursue a coordinated course of action designed to assure reasonable progress toward preventing any future, and remedying any existing impairment of visibility in mandatory Class I Federal areas and to leverage the multi-pollutant benefits that such measures may provide for the protection of public health and the environment. Per the Regional Haze rule, being on or below the uniform rate of progress for a given Class I area is not a factor in deciding if a State needs to undertake reasonable measures.


Therefore, the course of action for pursuing the adoption and implementation of measures necessary to meet the 2028 reasonable progress goal for regional haze include the following “emission management” strategies:

1. Electric Generating Units (EGUs) with a nameplate capacity larger than or equal to 25MW with already installed NO_x and/or SO₂ controls - ensure the most effective use of control technologies on a year-round basis to consistently minimize emissions of haze precursors, or obtain equivalent alternative emission reductions;

2. Emission sources modeled by MANE-VU that have the potential for 3.0 Mm⁻¹ or greater visibility impacts at any MANE-VU Class I area, as identified by MANE-VU contribution analyses (see attached listing) - perform a four-factor analysis for reasonable installation or upgrade to emission controls;
3. States should pursue an ultra-low sulfur fuel oil standard similar to the one adopted by MANE-VU states in 2007 as expeditiously as possible and before 2028, depending on supply availability, where the standards are as follows:
 - a. distillate oil to 0.0015% sulfur by weight (15 ppm),
 - b. #4 residual oil to 0.5% sulfur by weight,
 - c. #6 residual oil to 0.5% sulfur by weight.
4. EGUs and other large point emission sources larger than 250 MMBTU per hour heat input that have switched operations to lower emitting fuels – pursue updating permits, enforceable agreements, and/or rules to lock-in lower emission rates for SO₂, NO_x and PM. The permit, enforcement agreement, and/or rule can allow for suspension of the lower emission rate during natural gas curtailment;
5. Each State should consider and report in their SIP measures or programs to: a) decrease energy demand through the use of energy efficiency, and b) increase the use within their state of Combined Heat and Power (CHP) and other clean Distributed Generation technologies including fuel cells, wind, and solar.

This long-term strategy to reduce and prevent regional haze will allow each state up to 10 years to pursue adoption and implementation of reasonable and cost-effective NO_x and SO₂ control measures.

Signed on behalf of the MANE-VU states and tribal nations:



David Foerter, Executive Director
MANE-VU/OTC

August 25, 2017

Listing of emission units that have the potential for 3.0 Mm⁻¹ or greater visibility impacts at any MANE-VU Class I area using actual 2015 emissions for EGUs and 2011 for other emission sources). The complete contribution analyses report is available at <http://www.otcair.org/manevu>.

State	Facility Name	Facility/ ORIS ID	Unit IDs	Max Extinction
IN	Rockport	6166	MB1,MB2	3.8
KY	Big Sandy	1353	BSU1,BSU2	3.5
MI	Belle River		2	4.0
MI	Belle River		1	3.7
MI	St. Clair	1743	1,2,3,4,...6	3.1
NC	KapStone Kraft Paper Corporation	8048011	ST-1,2	6.0
OH	Avon Lake Power Plant	2836	12	9.2
OH	Gen J M Gavin	8102	1	3.3
OH	Gen J M Gavin	8102	2	3.1
OH	Muskingum River	2872	5	7.7
OH	Muskingum River	2872	1,2,3,4	4.4
VA	Yorktown Power Station	3809	3	10.9
VA	Yorktown Power Station	3809	1,2	7.0
WV	Harrison Power Station		1 (25%) 2 (20%)	7.0
WV	Kammer	3947	1,2,3	3.2

VISTAS



**Southeastern Regional
Haze Project – Phase II**

January 27, 2018

David Foerter
Ozone Transport Commission
444 N Capitol St NW Ste 322
Washington DC 20001-1529

RE: MANE-VU Regional Haze Consultation

Dear Mr. Foerter:

This correspondence is being sent to you on behalf of the state air pollution control agencies in Alabama, Florida, Kentucky, North Carolina, Tennessee, Virginia, and West Virginia (the seven VISTAS states). Comments are offered herein in response to the following documents:

- *Selection of States for MANE-VU Regional Haze Consultation (2018) – 9/5/2017*
- *Statement of the Mid-Atlantic/Northeast Visibility Union (MANE-VU) States Concerning a Course of Action in Contributing States Located Upwind of MANE-VU Toward Assuring Reasonable Progress for the Second Regional Haze Implementation Period (2018-2028)*

As you know, the MANE-VU states have made available the documents above and have held four consultation calls with the seven VISTAS states and other states. Thank you for sharing your thoughts during these calls and especially for taking time to explain the technical assessment in detail.

At this time, it is not possible for the seven VISTAS states to provide a detailed technical response to the MANE-VU requests. However, this letter provides some initial thoughts and concerns for your consideration.

Timing.

The MANE-VU states have indicated their intent to file their regional haze SIPs by the original July 2018 deadline that EPA has more recently adjusted to July 31, 2021. The ten VISTAS states are working toward completion of their regional haze technical analysis in mid-2019 with the intention of submitting regional haze SIPs by July 2021. The differing schedules have resulted in the seven VISTAS states being asked to assess the MANE-VU analysis without the benefit of the forthcoming VISTAS technical work.

On January 18, 2018, EPA announced its decision to revisit aspects of the 2017 Regional Haze Rule Revisions.¹ While the extent of the new review is uncertain, the potential exists that EPA could modify certain existing regional haze provisions prior to the SIP submittal deadline; hence possibly affecting state obligations under the rule.

The MANE-VU states should allow time for EPA to complete its revisit to the rule and for the VISTAS analysis to be completed and shared before submitting SIPs incorporating any new emission control presumptions directed at the VISTAS states.

Technical Analysis – Inventories, Modeling, and Evaluation.

The MANE-VU states' analysis used emission inventories that are inconsistent with the recent EPA regional haze modeling platform. These inventories do not fully reflect emission reductions expected from southeastern EGUs by 2028 and perhaps from other sources as well. Modeling results derived from use of the outdated emissions inventory may not allow conclusive determinations of impacts, if any, from VISTAS states on Class I areas in the MANE-VU region. Additionally, the analyses may not meet EPA's SIP approval criteria.

In many cases, the sources of the alleged contributions to downwind receptors are located thousands of miles away from the MANE-VU Class I areas. The MANE-VU states used the CALPUFF model and the Q/d screening approach to identify contributions that they allege are significant. CALPUFF should not be used for transport distances greater than 300 km since there are serious conceptual concerns with the use of puff dispersion models for very long-range transport which can result in overestimations of surface concentrations by a factor of three to four.²

The preamble to the recent Revisions to the Guideline on Air Quality Models that modified appendix W of 40 CFR part 51 states, in part, "the EPA has fully documented the past and current concerns related to the regulatory use of the CALPUFF modeling system and believes that these concerns, including the well documented scientific and technical issues with the modeling system, support the EPA's decision to remove it as a preferred model in appendix A of the *Guideline*."³

¹ <https://www.epa.gov/visibility/epas-decision-revisit-aspects-2017-regional-haze-rule-revisions>

² *Interagency Workgroup on Air Quality Modeling (IWAQM) Phase 2 Summary Report and Recommendations for Modeling Long Range Transport Impacts* (December 1998)

³ *Federal Register*, Vol. 82, No. 10, Tuesday, January 17, 2017, Page 5195

The reliability of the Q/d screening approach diminishes over distance and especially beyond 300 km. If the MANE-VU states wish to evaluate emission impacts more than 300 km downwind from sources, a scientifically reliable approach is essential such as the CAMx model with the PSAT source apportionment method.

In response to our stated concerns about inaccuracies in the MANE-VU analysis during the December 18, 2018 technical call, the MANE-VU states suggested that the seven VISTAS states could reassess contributions using their own information to correct the MANE-VU analysis. The VISTAS states intend to conduct a thorough technical review of emission impacts during their forthcoming analysis. However, it is incumbent on the MANE-VU states to correct the errors inherent in their own analysis and reassess the states with which consultation is necessary.

The MANE-VU “ask” includes year-round use of effective control technologies on EGUs; a four-factor analysis on sources with potential for visibility impacts of 3.0 Mm^{-1} or greater at any MANE-VU Class I area; establishment of an ultra-low sulfur fuel oil standard; updated permits, enforceable agreements, and/or rules to lock in lower emission rates for EGUs and other large emission sources that have recently reduced emissions or are scheduled to do so; and efforts to decrease energy demand through use of energy efficiency and increased use of combined heat and power and other clean distributed generation technologies. This “ask” fails to recognize fully the improved controls, fuel switches, retirements, and energy demand reductions that have already been achieved in the Southeast. Further, the MANE-VU states suggest that the Southeast adopt control measures that would produce little if any visibility improvement at MANE-VU Class I areas. The MANE-VU states should refine their analyses and establish a sound basis for any actions requested of the seven VISTAS states and incorporated such expectations in MANE-VU SIPs.

Permanent and Enforceable.

Regional haze SIPs (including the reasonable progress goals that are set for each Class I area) should only include emission reductions that are permanent, quantifiable, and enforceable. Therefore, the MANE-VU states should only include in their regional haze SIPs emission control presumptions for the seven VISTAS states that are clearly necessary and effective and have been made permanent and enforceable via state rulemaking or permit revisions. To include emission controls that are not permanent and enforceable in MANE-VU states’ SIPs would be inconsistent with the Clean Air Act and the Regional Haze Rule and could result in adverse comments from the seven VISTAS states during the MANE-VU regional haze SIP public comment period.

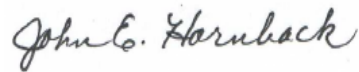
David Foerter
January 27, 2018
Page 4 of 4

The VISTAS states will be initiating technical work in the spring of 2018. When that work is completed, we will provide the MANE-VU states with a summary of our analysis. Early results may be available as early as late 2018 and certainly by the spring of 2019.

Please note that this letter is not intended to cover every issue that may be of concern to the seven VISTAS states. Any or all states represented by this letter may submit state-specific comments to you.

Thank you for your consideration of these concerns. We welcome further conversations at appropriate times as our collective work progresses.

Sincerely,

A handwritten signature in cursive script that reads "John E. Hornback".

John E. Hornback
Executive Director
Metro 4/SESARM/VISTAS

Copies: VISTAS States Air Pollution Control
Agency Directors



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Noah Valenstein
Secretary

Via Electronic Mail

January 19, 2018

Mr. David Foerter, Executive Director
Mid-Atlantic/Northeast Visibility Union/Ozone Transport Commission
444 North Capitol Street, NW – Suite 322
Washington, DC 20001
Email: dfoerter@otcair.org

Re: Florida Department of Environmental Protection's Comments on the Mid-Atlantic/Northeast Visibility Union (MANE-VU) "Ask" to States Concerning a Course of Action Toward Assuring Reasonable Progress for the Second Regional Haze Implementation Period (2018-2028)

Dear Mr. Foerter:

As you are aware, on August 25, 2017, the Mid-Atlantic/Northeast Visibility Union (MANE-VU), requested that the Florida Department of Environmental Protection (Department) implement certain emission reduction measures under the federal Regional Haze Rule (40 CFR 51.308 (f)(2)(iii)) as MANE-VU's analysis found that Florida was a contributing state to visibility impairment at the Acadia National Park Class I Area. Specifically, the Ask requested that the Department consider a variety of "emission management" strategies that MANE-VU considers necessary to meet its Class I area reasonable progress goals in the Regional Haze Rule. Florida was one of 36 states in the Eastern half of the continental US that were analyzed for inclusion in the Ask by the MANE-VU Technical Support Committee.

While the Department recognizes its obligation to consult with other states to develop coordinated emission management strategies to make reasonable progress toward visibility goals in Class I areas outside of the State, we disagree with MANE-VU's conclusion that Florida is a contributing state. The Department appreciates the opportunity to provide the following comments that bring into question whether emissions from Florida can be "reasonably anticipated to contribute to visibility impairment" in any MANE-VU Class I area.¹

¹ See 40 C.F.R 51.308(f)(2)(ii)

Mr. David Foerter

Page 2 of 2

January 19, 2018

Application of Q/d Screening

Florida was selected for inclusion in the Ask based on a Q/d analysis where estimated 2015 statewide emissions of NO_x and SO₂ in tons (Q) were divided by the distance from the population centroid of Florida to each of the MANE-VU Class I areas in kilometers (d). MANE-VU chose a 2.0% contribution threshold to screen states in or out. Florida's contribution was below 2.0% for all areas except Acadia National Park which was calculated at 2.1% of the total impact. Given this very small exceedance of the 2.0% threshold, even small emissions reductions would bring the State below this threshold.

Statewide emissions of SO₂ from stationary sources, as determined through facility Annual Operating Reports, decreased approximately 24% from 2015 to 2016. NO_x emissions from both on-road mobile and stationary sources decreased approximately 9% over the same period. The Department expects to see similar annual decreases for the period 2017-2019 due to a variety of emissions reduction projects and unit retirements occurring at many of the State's largest emissions sources.

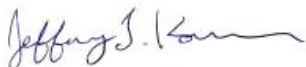
Furthermore, while Q/d is a common screening tool used across a variety of air quality applications, there are limits to its usefulness. In many cases, the correlation between Q/d and visibility impacts decrease with increasing distance.

Back Trajectory Analysis

MANE-VU utilized NOAA's HYSPLIT model to determine the source of emissions on the 20% most impaired days in each Class I area for 2002, 2011, and 2015. The results were used as a "qualitative opportunity to cross check the reasonability for including states." In other words, the trajectory analysis was used to determine the possibility that emissions from a state could be transported to a MANE-VU Class I area. In Acadia National Park, the only Class I area that Florida was tied to, 0.01% of all trajectories on the 20% most impaired days in 2015 passed over Florida. This is a very insignificant number and brings into question the likelihood of Florida emissions impacting a Class I area over 1,800 kilometers away. The lack of back trajectories over Florida also emphasizes the limits of the Q/d analysis, as described above.

In sum, the Department does not believe that the Q/d analysis is appropriate for Florida with regard to such distant areas. In addition, the 2.0% threshold is not justified. The Department does not believe emissions from Florida can be "reasonably anticipated to contribute to visibility impairment" in any MANE-VU Class I area. If you have any questions about these comments, please contact Hastings Read at (850) 717-9017 or by email at Hastings.Read@dep.state.fl.us.

Sincerely,



Jeffery F. Koerner, Director
Division of Air Resource Management

JFK/tl