Regional Haze SIP/TIP Template
Draft 2004

Mid-Atlantic/Northeast Visibility Union (MANE-VU)

Edited by MARAMA
September 2004

This SIP Template is one of MARAMA's work products for MANE-VU. While it is a work product and a grant deliverable for MARAMA, it is still a work in progress. This template will continue to evolve while states and other stakeholders make adjustments to the template to fit the overarching needs of jurisdictions fulfilling their haze SIP requirements in the coming years. This template provides guidance to states that choose to utilize it, but states do not have to follow this template in its entirety, or at all. States can opt out and choose to compile their SIPs without the assistance of the template. States are not bound to this template.

Table of Contents

List of Tables

List of Appendices

Section 4 State and Federal Land Manager Coordination

- Federal Land Manager comments and State/Tribe responses
- Summary of comments and responses on draft Regional Haze SIP <and/or SIP elements> from FLMs

Section 5 Assessment of Baseline, Natural and Current Conditions

- Determination of Baseline or Current Conditions Report
- Estimate of Natural Visibility Conditions Report
- Summary of Comments and Responses on Estimate of Natural Conditions Report
- Summary of Comments and Responses on Assessment of Baseline or Current Conditions
- Data used in determining baseline/current visibility
- Demonstration that data from monitors outside (but near) Class I Area adequately represents air quality in that Class I area (if applicable)

Section 6. Monitoring Strategy

- Monitoring Strategy for Each Class I area in the state
- Procedures for use of monitoring data and other information in determining the contribution of emissions from within a state on Class I areas inside and outside of a state.
- Procedures to address elements necessary to assess and report on visibility (reporting, record keeping, etc.)

Section 7. Emissions Inventory

- Statewide Emission Inventory
- MANE-VU Emissions Inventory

Section 8. Best Available Retrofit Technology (BART)

- Description of BART-Eligible Sources in the State/Tribe of <state/tribe name>.
- BART Analysis for the BART-Eligible Sources in the State/Tribe of <state/tribe name>.
- BART Visibility Improvement Analysis for BART-Eligible Sources in the State/Tribe of <state/tribe name>.
- Draft Title V Operating Permits for the BART Sources in the State/Tribe of <state/tribe name>.
- Description of Emissions Trading or Alternate Measures Program
- Visibility Improvement Analysis for the Emissions Trading or Alternate Measures Program

(Note: Last 2 Appendices are needed only if an Emissions Trading or Alternative Measures Program is used.)

Section 9 Reasonable Progress Goals

- Estimate of Natural Visibility Conditions Report (same as under Section 5)

- Determination of Baseline or Current Conditions Report (same as under Section 5)
  - Analysis showing uniform rate of progress is not reasonable and rationale for the State's determination. (if needed)
  - Demonstration showing why State's determination is reasonable.
  - Description of interstate consultation process.
  - Showing reasonable progress goal is at least equivalent to progress from CAA implementation

Section 10 Long Term Strategy

- Estimate of Natural Visibility Conditions Report (same as under Section 5)
- Determination of Baseline or Current Conditions Report (same as under Section 5)
- Technical Modeling Report
- Contribution Assessment letters: MANE-VU, LADCO and VISTAs
- Statewide Emission Inventory (same as under Section 7)
- MANE-VU Emissions Inventory
- Control measures (except BART):rules, administrative orders and schedules of compliance
  - Control measure documentation for implementation of BART (listed only for cross-reference, found in BART section)
- Weight of Evidence Demonstration
- Measures to mitigate the impacts of construction activities
- Source retirement and replacement schedules (unless under existing PSD/NSR SIP)
- Smoke Management Program or letter certifying a basic SMP has been adopted (if applicable)

1. Background and Overview of the Federal Regional Haze Regulation

1.1. General Background / History of Federal Regional Haze Rule

In amendments to the Clean Air Act in 1977, Congress added Section 169 (42 U.S.C. 7491) setting forth the following national visibility goal:

> *Congress hereby declares as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I Federal areas which impairment results from man-made air pollution.*

In 1977, Congress added the goal of restoring pristine visibility conditions in national parks and wilderness areas to the Clean Air

Act. Section 169 of the Act calls for the prevention of any future, and the remedying of any existing, human-made visibility impairment in Class I areas. Over the following years modest steps were taken to address the visibility problems in Class I areas. The control measures taken mainly addressed Plume Blight from specific pollution sources, and did little to address regional haze issues in the Eastern United States.

When the CAA was amended in 1990, Congress added Section 169B (42 U.S.C. 7492), authorizing further research and regular assessments of the progress made so far. In 1993, the National Academy of Sciences concluded that "current scientific knowledge is adequate and control technologies are available for taking regulatory action to improve and protect visibility."[1]

In addition to authorizing creation of visibility transport commissions and setting forth their duties, Section 169B(f) of the CAA mandated creation of the Grand Canyon Visibility Transport Commission (GCVTC) to make recommendations to EPA for the region affecting the visibility of the Grand Canyon National Park. The Grand Canyon Visibility Transport Commission (Commission) submitted its report to EPA in June 1996, following four years of research and policy development. The Commission report, as well as the many research reports prepared by the Commission, contributed invaluable information to EPA in its development of the federal regional haze rule.

EPA's Regional Haze Rule was adopted July 1, 1999, and went into effect on August 30, 1999. The Regional Haze Rule aimed at achieving national visibility goals by 2064. This rulemaking addressed the combined visibility effects of various pollution sources over a wide geographic region. This wide reaching pollution net means that many states – even those without Class I Areas – are required to participate in haze reduction efforts. EPA designated five Regional Planning Organizations (RPO) to assist with the coordination and cooperation needed to address the Haze issue. The Mid-Atlantic / Northeast states, including the District of Columbia, were designated as part of the Mid-Atlantic / Northeast Visibility Union (MANE-VU).[2]

EPA's regional haze rulemaking process was not without much controversy and strife. On May 24, 2002 the US Court of Appeals, DC District Court ruled on the challenge brought by the American Corn Growers Association against EPA's Regional Haze Rule of 1999. The Court remanded to EPA the BART provisions of the rule, and denied industry's challenge to the haze rule goals of natural visibility and no degradation requirements.

EPA has proposed revisions to the Regional Haze rule pursuant to the remand.

All Regional Haze SIPs will be due three years after EPA designates $PM_{2.5}$ attainment and nonattainment areas. 40 CFR 51.308(b) and (c) were effectively addressed by the FY 2004 Omnibus Appropriations Bill. The Appropriations Bill said that all Regional Haze SIPs would be due three years after the $PM_{2.5}$ designation dates regardless of attainment status.

1.2. Option A Class I Area States/Tribes

<State/Tribe name> contains the following Class I Areas <insert Class I areas>

<State/Tribe name> submitted its Phase II SIP/TIP (in accordance with 40 CFR 51.300-51.307) to EPA on <insert date>; it was approved by EPA in a Federal Register notice on <insert date>. The federal regulations required that States/Tribes review the SIP/TIP every three years, providing Federal Land Managers and the public an opportunity to comment on progress in visibility improvement. <State/Tribe name> submitted SIP/TIP reviews to EPA on <insert dates>. These reviews show that visibility in <Class I area name> has been <improving, declining, not changing> since the SIP/TIP was written.

In accordance with 40 CFR 51.308 emissions sources within the <insert State/Tribe name> have or may have impacts on the following Class I Areas <insert areas>. {Class I states may have impacts on Class I areas outside their borders as well as inside to address} (See the MANE-VU Contribution Assessment, <Appendix>).

In addition, <State/Tribe name> believes that improved visibility will lead to <provide examples of benefits of reduced regional haze and improved visibility>. <State/Tribe name> expects <insert expectations of improved visibility>. (See Benefits of Improved Visibility, <Appendix>).

{For example, increased tourism leads to economic benefits and reduced regional haze leads to health benefits. States (without Class I areas) could describe how improved visibility would benefit tourism, for example the "forever wild" Adirondacks could boast improved visibility to attract tourists.}

1.2 Option B States and Tribes without Class I Areas

In accordance with 40 CFR 51.308 emissions sources within the <insert State/Tribe name> have or may have impacts on the following Class I Areas <insert areas>. (See the MANE-VU Contribution Assessment, <Appendix>).

In addition, <State/Tribe name> believes that improved visibility will lead to <provide examples of benefits of reduced regional haze and improved visibility>. <State/Tribe name> expects <insert expectations of improved visibility>. (See Benefits of Improved Visibility, <Appendix>).

{For example, increased tourism leads to economic benefits and reduced regional haze leads to health benefits. States (without Class I areas) could describe how improved visibility would benefit tourism, for example the "forever wild" Adirondacks could boast improved visibility to attract tourists.}

2. General Planning Provisions

Pursuant to the requirements of 51.308(a) and (b), <state name> submits this SIP/TIP submission as adopted to meet the requirements of EPA's Regional Haze rules that were adopted to comply with requirements set forth in the Clean Air Act. Elements of this Plan address the Core Requirements pursuant to CFR 40 51.308(d) and the Best Available Retrofit Technology (BART) components of CFR 40 50.308(e). In addition, this SIP/TIP addresses Regional Planning, State/Tribe and Federal Land Manager coordination, and contains a commitment to provide Plan revisions and adequacy determinations.

<State/Tribe name> has adopted this SIP/TIP in accordance with State or Tribal laws and rules. <State/Tribe name> has the authority to adopt the SIP/TIP in accordance with local laws and rules.

<State/Tribe name> provided public notice of the opportunity to comment on the SIP on <dates>. <State/Tribe name provided notice of public hearing on <dates>. <State/Tribe name> held public hearings regarding the SIP on <dates>. Public comments were addressed and are summarized in <Appendix>. <Provide a description of the process in place used to compile and address public comments regarding the SIP>.

3. Regional Planning

In 1999, EPA and affected States/Tribes agreed to create five Regional Planning Organizations (RPOs) to facilitate interstate coordination on Regional Haze SIP/TIPs. The State/Tribe of <insert State/Tribe name> is a member of the Mid-Atlantic / Northeast Visibility Union (MANE-VU) RPO. Members of MANE –VU are listed in Table <insert table #>.

Table <insert table #>MANE-VU Members*

Connecticut	Pennsylvania
Delaware	Penobscot Nation

District of Columbia	Rhode Island
Maine	St. Regis Mohawk Tribe
Maryland	Vermont
Massachusetts	Environmental Protection Agency (EPA)*
New Hampshire	National Park Service (NPS)*
New Jersey	Fish and Wildlife Service (FWS)*
New York	Forest Service (USFS)*

* Non-voting members

This SIP/TIP utilizes data analysis, modeling results and other technical support documents prepared for MANE-VU members. By coordinating with MANE-VU and other RPOs, the <enter State/Tribe name> has worked to ensure that its long term strategy and BART determinations provide sufficient reductions to mitigate impacts of sources from <enter State/Tribe name> on affected Class I areas. A copy of MANE-VU's *Final Interim Principles for Regional Planning* can be found in Appendix <insert letter> In addition MANE-VU's approach to regional planning can be found Long Range Strategy for Regional Haze Planning found in Appendix <insert letter>

Since its inception on July 24, 2001, MANE-VU has established an active committee structure to address both technical and non-technical issues related to regional haze. The primary committees are the Technical Support Committee (TSC) charged with assessing the nature and magnitude of the regional haze problem within MANE-VU, interpreting the results of technical work, and reporting on such work to the MANE-VU Board, and the Communications Committee, charged with developing approaches to inform the public about the regional haze problem in the region and making any recommendations to the MANE-VU Board to facilitate that goal. Ultimately, policy decisions are made by the MANE-VU Board. In addition to the formal working committees, there are also three standing working groups of the TSC. They are broken down by topic area: Emissions Inventory, Modeling, and Monitoring/Data Analysis Workgroups.

MANE-VU has also established a Policy Advisory Group to facilitate communication with Federal Land Managers, between the Technical and Communications Committees, and with MANE-VU staff. The Policy Advisory Group provides advice to decision-makers on policy questions.

MANE-VU's work is managed by the Ozone Transport Commission (OTC) and carried out by OTC, the Mid-Atlantic Regional Air Management Association (MARAMA) and the Northeast States for Coordinated Air Quality Management (NESCAUM). The states along with federal agencies and professional staff from OTC, MARAMA and NESCAUM are members of the various committees and workgroups.

The TSC has evolved to function as a valuable sounding board for all the technical (and some non-technical) projects/ processes of MANE-VU. Thus far, the TSC has established a full membership, gained efficiency, and garnered a thoughtful democratic process to ensure that funds and resources are properly allocated, important regional haze related projects are completed in a timely fashion, and members are kept informed of all MANE-VU tasks and duties.

The Communications Committee has become an effective means to develop outreach tools both for stakeholders and the public regarding regional issues within MANE-VU's members.

The following are highlights many of the ways MANE-VU's has set about to cooperatively address regional haze within its member states and tribes.

- Budget Prioritization: MANE-VU developed a process to coordinate MARAMA, OTC and NESCAUM staff in developing budget priorities, project rankings, and the eventual federal grant requests.
- Issue Coordination: MANE-VU has established a set conference call and meeting schedule for each of its committees and workgroups. In addition, its Air Directors regularly discuss pertinent issues.
- SIP Policy and Planning: MANE-VU has initiated a process to track the key milestones needed for SIP development.
- Materials Distribution: To educate its staff and members MANE-VU included technical presentations at the end of the conference calls. Presentations on haze airplane flights, BART work, inventory topics, etc were an effective education and coordination tool.
- Routine Operations: MANE-VU established routine operations to address the following topics: budget, grant deliverables/ due-dates, workgroup meetings, inter-RPO feedback, haze rule development, etc.

4. State/Tribe and Federal Land Manager Coordination

40 CFR section 51.308(i) requires coordination between States/Tribes and the Federal Land Managers (FLMs). Opportunities have been provided by MANE-VU for FLMs to review and comment on each of the technical documents developed by MANE-VU and included in this SIP/TIP. <State/Tribe name> has provided agency contacts to the Federal Land Managers as required. In development of this plan, the Federal Land Managers were consulted in accordance with the provisions of 51.308(i)(2).

The <State/Tribe name> provided FLMs an opportunity for consultation, in person and at least 60 days prior to holding any public hearing on an implementation plan or plan revision.

During the consultation process, the FLMs were given the opportunity to address their:

- Assessment of the impairment of visibility in any Class I areas
- Recommendations on the development of reasonable progress goals
- Recommendations on the development and implementation of strategies to address visibility impairment.

<State/Tribe name> sent the draft SIP to the FLMs on <dates.> <State/Tribe name> sent the SIP revisions to the FLMs on <dates.> <State/Tribe name> notified the FLMs of public hearings held on <dates.> <State/Tribe name> considered/incorporated the FLMs comments on the SIP draft and/or revisions as follows <describe>.

Comments received from the Federal Land Managers on the plan were addressed. A summary of FLM comments and responses are included in Appendix <appendix name> to this plan.

<State/Tribe name> will continue to coordinate and consult with the Federal Land Managers during the development of future progress reports and plan revisions, as well as during the implementation of programs having the potential to contribute to visibility impairment in the mandatory Class I areas. The FLMs must be consulted in the following instances:

- Development and review of implementation plan revisions
- Review of 5-year progress reports
- Development and implementation of other programs that may contribute to impairment of visibility in Class I areas.

<State/Tribe name> has consulted with FLMs on the following <provide examples of plan revisions, progress reports, and other programs>.

5. Assessment of Baseline (or Current) Conditions and Estimate of Natural Conditions (in Class I Areas)

Under the Clean Air Act, the Regional Haze SIPs due in 2008 must contain measures to make reasonable progress toward the goal of achieving natural visibility. Comparing natural visibility levels to current baseline conditions helps indicate how much progress we should try to make in the next 5 years. Determining natural visibility conditions are a SIP element and each state containing a Class I area (in consultation with Federal Land Managers and other states) must estimate natural visibility levels.

EPA guidance gives states a “default” estimate of natural visibility. MANE-VU estimated natural visibility using the default

method. MANE-VU calculated estimates for the 20% best and worst days. MANE-VU evaluated ways to refine the estimates. Potential refinements included: increasing the multiplier used to calculate impairment attributed to carbon, adjusting the formula used to calculate the 20% best and worst visibility days, and accounting for visibility impairment due to sea salt at coastal sites. However, MANE-VU found that these refinements did not significantly improve the accuracy of the estimates and MANE-VU states desired a consistent approach. Therefore, default estimates were used and this may be reconsidered as scientific understanding warrants.

Once the technical analysis was complete, MANE-VU provided an opportunity to comment to federal agencies and stakeholders. Proposed approach was posted on the MANE-VU website on March 17 and a stakeholder briefing was held on the same day. Comments were received by EPRI, MOG, the Appalachian Mountain Club, the National Parks Conservation Association, the National Park Service, and the US Forest Service.

Several commentors supported the proposal and other comments addressed four main topics: the equation used to calculate visibility, the statistical technique used to estimate the 20% best and worst visibility days, the inclusion of transboundary effects and fires, and the timing of when new information should be included. All comments were reviewed and summarized by MANE-VU and air directors were briefed on comments, proposed response options, and implications. *Comments were addressed in a Summary of Comments and Response Document*.

After serious consideration, MANE-VU decided to stay with the default approach because national consistency in calculating estimates will allow MANE-VU to collaborate with other regions as much as possible.

States are concentrating on developing initial SIPs and the default estimates are an adequate basis for that effort. In addition, MANE-VU would like to coordinate with other RPOs as much as possible on any deviations from default methods. After consultation with stakeholders, FLMs, and state staff we are concluding that MANE-VU will support the use of EPA's default method for calculation of natural visibility.

5.1 Option A: for States/Tribes with Class I Areas (If data is available for the area)

The <name of Class I area> Class I area has an established baseline visibility of <number> deciviews for the cleanest 20 percent of the days and <number> deciviews for the 20 percent worst visibility days. This is based on, on-site data at the <monitoring location> IMPROVE monitoring site, described in Appendix <Appendix name>. A five year average (2000 to 2004) was calculated for each value (both best and worst) in accordance with 40 CFR 51.308(d)(2), and detailed on page <page number> of Appendix <appendix name>. The deciview visibility for these worst and best days are based on calculations and data included in Appendix <appendix name> of this SIP/TIP. {Do we really want to include the 5 years of data?}

Natural background represents the visibility goal for each Class I area to be reached in 2064, visibility representative of the conditions before human activities affected air quality in the area.

The <name of Class I area> Class I area has an estimated natural background visibility of <state in deciviews> on the best days and <state in deciviews> on the worst 20 percent of days.. These best and worst 20 percent conditions calculated using the above referenced EPA guidelines are presented in Appendix <appendix name>.

For states with more than 1 Class I area, this section will need to be repeated.

5.2 Option B: for States/Tribes with Class I Areas) (If data is not available for the area)

The <name of Class I area> Class I area has an established baseline visibility of <number> deciviews for the cleanest 20 percent of the days and <number> deciviews for the 20 percent worst visibility days. This is based on a five year average (2000 to 2004) calculated in accordance with published EPA guidance documents using off-site data from the <monitoring location> IMPROVE monitoring site. A demonstration that this site is representative of the <Class I area name> Class I area is contained in Appendix <appendix name> and was prepared in accordance with established EPA guidance. The deciview visibility for these worst and best days are based on calculations and data included in Appendix <Appendix name> of this SIP/TIP.

The <name of Class I area> Class I area has a natural background visibility of <state in deciviews> on the best days and <state in deciviews> on the worst 20 percent days . These best and worst 20 percent conditions calculated using the above referenced EPA guidelines are presented in Appendix <appendix name>.

If more than one Class I area, Repeat this section.

As described in section 3, <state/tribe> coordinated with States/Tribes containing Class I areas which are affected by emissions from sources located in <state> as those States/Tribes assessed baseline, natural, and current visibility conditions in their respective Class I areas. {Class I states will also have to address the effect that their emissions have on Class I areas in other states.}

5.3 Option C (for States/Tribes without Class I areas)

The <name of jurisdiction> does not contain any Class I areas. As described in section 3, the <name of jurisdiction> coordinated with States/Tribes containing Class I areas which are affected by emissions from sources located in <States/Tribes of jurisdiction> as those States/Tribes assessed baseline, natural and current visibility conditions in their respective Class I areas.

6. Monitoring Strategy

6.1 Option A: States/Tribes that have Class I areas

Section 51.308(d)(4) of the federal regional haze rule requires a monitoring strategy for measuring, characterizing, and reporting regional haze visibility impairment that is representative of all mandatory Class I areas within the State/Tribe of <State/Tribe name>. The monitoring strategy relies upon participation in the Interagency Monitoring of Protected Visual Environments (IMPROVE) network. The monitoring strategy is included in Appendix <appendix name> of this plan.

The State/Tribe will evaluate the monitoring network periodically and make those changes needed to be able to assess whether reasonable progress goals are being achieved in each of <State/Tribe name>'s mandatory Class I areas.

<State/Tribe name> commits to meet the requirements under 40 CFR 51.308(d)(4)(iv) to report to EPA visibility data for each of the <insert State/Tribe name>'s Class I area(s) annually. The <insert State/Tribe name> will accomplish this by supporting the IMPROVE Network via national funding.

6.2 Option B: States/Tribes without Class I Areas

<State/Tribe> does not contain any Class I Ares.

Monitoring data and other information are important in determining the contribution of emissions from within <state/tribe name> on Class I areas outside of <State/Tribe name>.
Through participation in MANE-VU, <state/tribe> will continue to assess progress in reducing visibility impairment in Class I Areas affected by emissions from sources within <state/tribe>.

7. Emissions Inventory

40 CFR section 51.308(d)(4)(v) requires a statewide emission inventory of pollutants that are reasonably anticipated to cause or contribute to visibility impairment in any mandatory Class I area. As specified in the applicable EPA guidance, the pollutants inventoried by <State/Tribe name> include volatile organic compounds, nitrogen oxides, fine particulate (PM2.5), coarse particulate (PM-10), ammonia, and sulfur dioxide. An inventory was developed for the baseline year 2002 and the most recent year for which data is available<recent year>. In addition, projections of future emissions have been made for 2018. The State/Tribe will update this inventory on a periodic basis, every three years. A summary of the inventory results follows; the complete emission inventory has been submitted as a separate document.

<Insert emission inventory summary information – For a 2008 SIP/TIP, a 2002 emission inventory is desired>

8. Best Available Retrofit Technology

On May 24, 2002, the US Court of Appeals for the DC Circuit concluded, "EPA acted contrary to law [the Clean Air Act] in establishing a group rather than a source-by-source approach for BART determinations." EPA has not issues revised guidance on BART as of August of 2003. Therefore the Guidelines for Best Available Retrofit Technology (BART) Determinations under the Regional Haze Rules. 40 CFR, Appendix Y are no longer applicable. However, it does appear that a State/Tribe could issue source-by-source BART eligibility determinations.

NOTE: This paragraph may become irrelevant by the time the Regional Haze SIP is due. In that instance delete the first paragraph and identify the promulgation of 40 CFR part 51, Appendix Y.

8.1 BART - Eligible Sources in State/Tribe of <State/Tribe name>

The BART-eligible sources in the State/Tribe of <State/Tribe name> are shown in Table <insert table #>. A detailed description of each BART-eligible source and the identification analyses is included in Appendix <insert letter>.

The BART-eligible sources were identified using the methodology in the Guidelines for Best Available Retrofit Technology (BART) Determinations under the Regional Haze Rules. 40 CFR Part 51, Appendix Y.

Table <insert number>Bart-Eligible Sources in the State/Tribe of <State/Tribe>

Source and Unit	Pollutant	Location	I.D

8.2 Determination of BART Requirements for Identified BART-Eligible Sources and Analysis of Best System for Each Source

BART for the BART-eligible sources in <State/Tribe name> are shown in Tables 2 through seven for each visibility impairing pollutant. BART is the emission limit for each pollutant based on the degree of reduction achievable through the application of the best system of continuous emission reduction, taking into consideration the technology available, the costs of compliance, the energy and the non-air quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology. The BART analysis for each BART-eligible source is included in Appendix <insert>. This analysis includes consideration of the degree of improvement in visibility, which is determined in the BART Visibility Improvement Analysis, which is included in Appendix <insert>.
BART for each BART-eligible source was determined using the methodology in the Guidelines for Best Available Control Retrofit Technology (BART) Determinations Under the Regional Haze Rules. 40 CFR Part 51, Appendix Y.

The application of BART to all BART-eligible sources provides an estimated emission reduction from the baseline year, 2002, of <number> tons per year of sulfur dioxide, <number> tons per year of nitrogen oxides, <number> tons per year of PM2.5, <number> tons per year of PM10, <number> tons per year of volatile organic compounds, and <number> tons per year of ammonia. These reductions are shown in Tables 2 through 7 for each source and in total.

(Optional, depending on the results of the visibility analysis) <State/Tribe name> has determined that the visibility improvement achieved by the installation of the best system of continuous emission control technology identified in the BART analysis is not sufficient to justify the installation of these controls on <all or the following> BART-eligible sources in the State/Tribe. <list sources if less than all>.

The cumulative visibility improvement has been determined not to be a significant fraction of the achievable visibility improvement from all visibility measures included in the SIP/TIP, or is not a significant fraction of the visibility goal for any Class I area, and is not necessary to prevent any degradation from current conditions on the 20 percent best visibility days.

(List other reasons both generic and specific to individual BART-eligible sources. Reference the BART visibility analysis and/or the cumulative visibility analysis for all SIP/TIP control strategies).

Table <insert number> BART-Level Emissions Reductions From the <year> Baseline Sulfur Dioxide

Source and Unit	Baseline Emissions Tons per Year	Baseline Capacity %	Baseline Level of Control %	Emissions at Maximum Utilization Capacity	BART Level of Control %	Emissions After Controls Tons Per Year	Emissions Reductions Tons Per Year	Emission Limit	Schedule of Compliance

TOTAL									

Note: Include a table for all pollutants that are subject to BART. Number sequentially, 2 through 7. (SO2, NOx, PM2.5, PM10, VOC, Ammonia)

8.3 For State/Tribes with Class I Areas

8.3.1 Analysis of Visibility Improvement Achievable From all BART Sources in the Region

The modeled visibility improvement that will be achieved in each mandatory Class I federal area as a result of the emission reductions achievable from all sources subject to BART located within the region that contributes to visibility impairment in each Class I area impacted by the BART sources in <State/Tribe name> is shown in Table <insert>. The visibility modeling analysis is included as Appendix <insert>.

The Class I areas located in the state(s) of <States/Tribes(s)> are included in Table <insert table #> as they are impacted by the BART sources in the state of <state name>.

BART sources in the <States/Tribes> are also included in this analyses as they also impact some or all of the Class I areas shown in <insert . These BART sources are: <list of sources>. Detailed information on these sources was obtained from <State/Tribe(s)> or EPA and is included in Appendix <letter>.

(Note: A discussion of whether the visibility improvement at each Class I Area, from each BART-eligible source individually and cumulatively is significant or insignificant should be included here.)

This modeling analysis was performed using the methodology in the Guidance for Demonstrating Attainment of Air Quality Goals for PM2.5 and Regional Haze and methodology developed by MANE-VU's Technical Steering Committee. The methodology is described in Appendix <letter>.

Table <insert #> Modeled Visibility Improvement from BART

Class I Area	Location (State/Tribe)	Deciview Improvement		
		20% Best Days	20% Worst Days	Annual Average
Average Minimum Maximum				

8.4 Description of BART Alternative for Any Source

<State/Tribe name> has determined in establishing BART that technological or economic limitations on the applicability of measurement methodology to the sources listed in Table <X> would make the imposition of an emission standard infeasible.

A design, equipment, work practice, or other operational standard, or combination thereof has been prescribed to require the application of BART for each source. These standards, to the degree possible, set forth the emission reduction to be achieved by implementation of such design, equipment, work practice or operation, and provide for compliance by means which achieve equivalent results. These standards are summarized in Table <X> and will be included in the Title V operating permit for each source after this implementation plan is approved by EPA. Draft Title V operating permits are included in Appendix <insert>. A detailed discussion of the selection of the alternate standard for each source is also included in Appendix <insert>.

Table <X>

Table <insert #> List of Sources with BART Alternative Standard

Source	Need for Alternative Standard	Description of Alternative Standard

Statement BART must be in Operation for each Applicable Source no Later than Five Years after SIP/TIP Approval

The <State/Tribe name> is requiring that each source subject to BART shall install and operate BART as expeditiously as practicable but in no event later than five years after approval of the SIP/TIP or plan revision by EPA.

This requirement will be included in the Title V operating permit for each source subject to BART after this SIP/TIP is approved by EPA. The Title V operating permits also include a requirement that each source maintain the control equipment and establish procedures to ensure such equipment is properly operated and maintained. Copies of the draft Title V operating permits for each source are included in Appendix <insert>.

8.5 Emissions Trading Program or Other Alternative Measures In Lieu of BART (optional)

<State/Tribe name> (alone or in cooperation with the <States/Tribes> has developed and will implement an emissions trading program (or other alternative measure) rather than require sources subject to BART to install, operate, and maintain BART. This program will achieve greater reasonable progress than would be achieved through the installation and operation of BART.

The emissions trading program (or other alternative measure) consists of:

(Note: Describe the program and provide a summary of all the plan elements and documentation of all analyses required in 51.308(e)(2)).

The emissions trading program should include requirements for: emission allowances for the pollutants included in the program, tracking permits, emissions monitoring and reporting, audits and reports, set-asides for new sources, transfers of allowances, banking provisions, the tracking system for allowances, and penalties to be assessed if allowances are not achieved. {The Western Emissions Budget Trading Program established by the Western Regional Air Partnership (WRAP), the Ozone Transport Commission's NOx Trading Program and the EPA document Improving Air Quality with Economic Incentive Programs provide guidance to be used in designing an emissions trading program. The EPA document addresses a wide variety of emissions incentive/trading programs.}

A detailed description of the emissions trading or alternative measures program is included in Appendix <insert> and the cumulative air quality analysis for the emissions trading or alternate measures program is included in Appendix <insert>.

9. Reasonable Progress Goals

40 CFR section 51.308(d)(1) requires <States/Tribes name> must establish for each Class I area within the state goals (in deciviews) that provide for reasonable progress towards achieving natural visibility. The goals must provide improvement in visibility for the most impaired days, and ensure no degradation in visibility for the least impaired days over the SIP/TIP period. Table <insert #> provides a summary of the Presumptive Reasonable Progress Goals for Class I areas located within <insert States/Tribes name>.

Table <insert #> Presumptive Reasonable Progress Goals

Class I Area	Deciview Improvement Needed by 7/3/18	Deciview Improvement Needed by 2064	Uniform Rate of Improvement Annually	Project Year for Reaching Natural Visibility

(Deciview value to three decimal places)

This presumptive reasonable progress goal is based on an analysis of visibility conditions, including a comparison of baseline conditions to natural visibility conditions, which quantifies the improvement necessary by the year 2064 to achieve natural visibility conditions. (See <appendix name>.) The uniform rate of improvement per year needed to achieve natural background visibility conditions is also shown in Table <insert #>. The discussion below explains the basis for the rate of improvement through 2018. Considering that rate over the time period of this SIP/TIP, an improvement of <number> deciviews would result by the year 2018.

(Repeat as necessary for each Class I area.)

9.1 Option A: (Progress by 2018, predicted by uniform rate of improvement, is reasonable)

<State/Tribe name> has determined that the uniform annual rate of visibility improvement by 2018 shown in Table <insert #> is reasonable and hereby adopts it as the reasonable progress goal for the listed Class I areas. An analysis showing that this goal is reasonable is provided at <appendix location>. The analysis considers the cost of compliance, the time for compliance, the energy and non-air quality impacts of compliance and the remaining useful life of existing sources.

(Repeat as necessary for each Class I area.)

9.1 Option B: (Progress by 2018, predicted by uniform rate of improvement, is not reasonable)

<State/Tribe name> has determined that a uniform visibility improvement by 2018 is not reasonable for the Class I areas listed in Table <insert #>. An analysis and rationale showing that this amount of improvement is unreasonable is provided at <appendix location>. The analysis considers the cost of compliance, the time for compliance, the energy and non-air quality impacts of compliance and the remaining useful life of existing sources. <State/Tribe name> proposes instead that the visibility improvement targets shown in Table <insert #> are reasonable progress goals for the listed Class I areas. A demonstration showing why this

goal is reasonable is provided at <appendix location>. The demonstration contains an assessment of the number of years it would take to attain natural conditions if visibility improvement continues at the rate of progress selected by the state as reasonable. This demonstration also considers the cost of compliance, the time for compliance, the energy and non-air quality impacts of compliance and the remaining useful life of existing sources.

Table <insert #>Reasonable Progress Goals for Class I Areas that are not Uniform Rates of Improvement Through 2064

Class I Area	Deciview Improvement by 2018	Annual Rate of Improvement 2008-2018	Deciview Improvement by 2064	Annual Rate of Improvement 2018-2064

9.1 Option C States/Tribes Without Class I Areas

<State/Tribe> does not contain any Class I Areas.

9.2 Comparison to Clean Air Act

The reasonable progress goal that was selected represents at least as much visibility improvement that is expected from implementation of other CAA requirements during the planning period. <See Appendix>

9.3 Consultation

In determining a reasonable progress rate for each Class I area discussed above, <State/Tribe name> has consulted with the other States/Tribes, which (are) reasonably anticipated to cause or contribute to visibility impairment in each of these Class I areas. A

description of the consultation process is provided at <appendix location>.

9.4 Reporting

Progress will be reported to the EPA every five years in accordance with 51.308 (g).

10. Long Term Strategy

40 CFR section 51.308(d)(3) requires the <State/Tribe name> to submit a long-term strategy that addresses regional haze visibility impairment for each mandatory Class I Federal area within and outside the State/Tribe which may be affected by emissions from within the State/Tribe. The long-term strategy must include enforceable emissions limitations, compliance schedules and other measures necessary to achieve the reasonable progress goals established by States/Tribes where the Class I areas are located. This section describes how <State/Tribe name> meets the long-term strategy requirements.

10.1 Consultation

40 CFR section 51.308(d)(3)(i) requires <State/Tribe name> to consult with other States/Tribes to develop coordinated emission strategies. This requirement applies both where emissions from the State/Tribe are reasonably anticipated to contribute to visibility impairment in Class I areas outside the State/Tribe and when emissions from other States/Tribes are reasonably anticipated to contribute to visibility impairment in Class I areas within the State/Tribe.

<State/Tribe name> consulted with other States/Tribes and tribes by participation in the MANE-VU and inter-RPO processes that developed technical information necessary for development of coordinated strategies. <State/Tribe Name> also coordinated with MANE-VU and other RPOs to develop a weight of evidence analysis that was used to develop the States/Tribe's long-term strategy. Strategy development considered the impacts of the State/Tribe's emissions on Class I areas within and outside the State/Tribe. [Edit, revise or elaborate as necessary to describe the State/Tribe's consultation.]

[The State/Tribe's coordination with FLMs on long-term strategy development is described in section 4

10.2 Share of emission reductions

40 CFR section 51.308(d)(3)(ii) requires <State/Tribe name> to demonstrate that its implementation plan includes all measures necessary to obtain its fair share of emission reductions needed to meet reasonable progress goals.

The weight of evidence analysis referenced in section (iii) below demonstrated that the State/Tribe's long-term strategy when coordinated with other State/Tribes' strategies is sufficient to meet reasonable further progress goals. All applicable measures reflected in the weight of evidence analysis have been incorporated in the State/Tribe's long-term strategy. Section <insert number> below provides information on these measures.

10.3 Technical documentation

10.3.1 Basis for emission reduction obligations

40 CFR section 51.308(d)(3)(iii) requires <State/Tribe name> to document the technical basis for the State/Tribe's apportionment of emission reductions necessary to meet reasonable progress goals in each Class I area affected by the State/Tribe's emissions.

<State/Tribe name> relied on technical analyses developed by MANE-VU and the weight of evidence analysis developed in coordination to demonstrate that the State/Tribe's emission reductions, when coordinated with those of other States/Tribes are sufficient to achieve reasonable progress goals in Class I areas affected by the States/Tribes.

The demonstration of attainment of reasonable progress goals relies on the analysis of monitored and modeled data in a weight of evidence analysis to determine whether visibility is improved on days when it is usually poor and does not deteriorate on days when it is usually good. Current visibility is estimated from monitored components of PM2.5 and coarse mass. Models are used in a relative sense to estimate how current concentrations respond to emission reduction measures. Data analysis is used to identify source categories and regions. Current concentrations of particulate matter components are adjusted by the relative modeled response to estimate concentrations at the end the first implementation period in 2018. Future visibility is estimated from estimated component concentrations of PM2.5 and coarse particulate matter at the end of the first implementation period. The difference between present visibility and future estimated visibility is compared with the reasonable progress goal to determine if the goal is met.

The MANE-VU technical report on current visibility conditions is found in the <appendix name>. MANE-VU technical reports on current and projected inventories and on regional modeling are found in Appendices <insert letters>. Appendix <XXX> also includes the technical report on long-term strategy modeling performed by <States/Tribes name> to demonstrate meeting reasonable progress goals.

Appendix <insert letter> is MANE-VU's contribution assessment. Appendix <insert letter> is LADCO's contribution assessment. Appendix <insert> VISTA's contribution assessment.

10.3.2 Baseline inventory

40 CFR section 51.308(d)(3)(iii) requires <State/Tribe name> to identify the baseline inventory on which the long-term strategy is based.

<State/Tribe name> used the 2002 MANE-VU Inventory Version <insert version> as its baseline inventory. (See Section 7, above)

10.4 Anthropogenic sources of visibility impairment

40 CFR section 51.308(d)(3)(iv) requires <State/Tribe name> to identify all anthropogenic sources of visibility impairment considered by the State/Tribe in developing its long-term strategy.

Appendix <insert letter> is an analysis of the 2002 emissions inventory used in developing this SIP/TIP.

10.5 Factors the state/tribe must consider

40 CFR section 51.308(d)(3)(v) requires <State/Tribe name> to consider several factors in developing its long-term strategy. These are discussed below.

10.5.1 Emission reductions due to ongoing air pollution programs.

40 CFR section 51.308(d)(3)(v)(A) requires <State/Tribe name> to consider emission reductions from ongoing pollution control programs.

<State/Tribe name> considered the following ongoing programs in developing its long-term strategy: [list of programs with whatever elaboration is deemed appropriate]

10.5.2 Measures to mitigate the impacts of construction activities.

40 CFR section 51.308(d)(3)(v)(B) requires <insert State/Tribe name> to consider measures to mitigate the impacts of construction activities. (See Appendix <name>.)

{Under the ozone NAAQS, states in nonattainment of the ozone standard are required to consider construction emissions as part of the general conformity rule (only VOC and NOx emissions are reviewed). Mitigation under general conformity should be considered as a supplement to any mitigation activities performed under the regional haze rule.}

10.5.3 Emission limitations and schedules of compliance.

40 CFR section 51.308(d)(3)(v)(C) requires <State/Tribe name> to identify additional measures to meet reasonable progress goals

when ongoing programs alone are not sufficient to meet the goals.

<State/Tribe name> found that ongoing air pollution control programs <were or were not> sufficient to meet reasonable progress goals through 2018. <<As a result, <State/Tribe name> adopted the following measures: <list of measures>. Rules, administrative orders and schedules of compliance addressing these measures are found in Appendix <XXX> unless they involve implementation of BART. Administrative orders and schedules of compliance for facilities required to implement BART are found in the <BART Appendix name>.

10.5.4 Source retirement and replacement schedules

40 CFR section 51.308(d)(3)(v)(D) requires <State/Tribe name> to consider source retirement and replacement schedules in developing reasonable progress goals.

10.5.4.1 Option A

<State/Tribe name> considered the following source retirement and replacement schedules in developing its long-term strategy: <list of source retirement and replacement schedules followed by appropriate discussion on what this means for the long-term strategy>

10.5.4.2 Option B

Retirement and replacement will be managed in conformance with existing SIP/TIP requirements pertaining to PSD and New Source Review.

10.5.5 Agricultural and forestry smoke management

40 CFR section 51.308(d)(3)(v)(E) requires <State/Tribe name> to consider smoke management techniques for the purposes of agricultural and forestry management in developing reasonable progress goals. [Describe how the State/Tribe addressed smoke management in developing its long-term strategy]

{We are currently investigating three options for fire management. MANE-VU states may wish to consider three options.}

OPTION A - <State/Tribe name> has adopted a basic Smoke Management Program (SMP).

<State/Tribe name> evaluated/compiled a smoke management plan that includes the following requirements as laid out in *EPA's Interim Air Quality Policy on Wildland and Prescribed Fires*:

- Authorization to burn
- Minimizing air pollutant emissions
- Smoke management components of burn plans
    1) Actions to minimize emissions
    2) Evaluation of smoke dispersion
    3) Public notification and exposure reduction procedures
    4) Air quality monitoring
- Public education and awareness
- Surveillance and enforcement
- Program evaluation

<State/Tribe name> has a process for authorizing or granting approval to manage fires. <State/Tribe name> identified <a central authority> that is responsible for implementing the program.

<State/Tribe name> has encouraged wildland owners/managers to consider alternatives to burning. <State/Tribe name> has taken the following steps <insert steps> to remove administrative barriers to implementing alternatives to burning.

<State/Tribe name> has an SMP that includes measures that will be taken to reduce residual smoke from burning activities. <Stat/Tribe name> has documented the steps taken prior to the burn and actions taken during and after the burn to reduce air pollutant emissions. <Insert documentation>.

In addition, <State/Tribe name> has a process to evaluate potential smoke impacts at sensitive receptors and schedule fires to minimize exposure of sensitive populations and avoid visibility impacts in Class I areas. <Insert text about steps taken to minimize exposure of sensitive populations and visibility impacts in Class I areas>.

<State/Tribe name> has a public notification process and exposure reduction process in place to reduce the impacts of burning. <Insert text about public notification process and exposure reduction process>.

<State/Tribe name> has a monitoring process in place to determine how fires affect visibility in Class I areas. <Insert text about monitoring process>.

<State/Tribe name> has established a policy to issue health advisories when necessary. <Insert text about notifying potentially affected populations includes those in adjacent jurisdictions of planned fires>.

<State/Tribe name> has provided for periodic review (every 3-5 years) of the SMP by all stakeholders involved. <Insert text about the periodic review process, including stakeholders involved, their comments, response to comments, etc.>

Pursuant to the EPA's Interim guidance (cited above), <State/Tribe name> has adopted a program that they believe will prevent NAAQS violations and addresses visibility impairment due to fires. This program established basic parameters: wind speed, direction, location, and distance to sensitive receptors. <Describe basic parameters>.

{OPTION A-I}<State/Tribe name> has a program in which owners/managers voluntarily notify state/tribal officials of fire plans. Documentation of this program is in <Appendix>.

OR

{OPTION A-II} <State/Tribe name> has a program in which owners/managers must get prior authorization prior to implementing fire plans. Documentation explaining this process is in <Appendix>.

In addition, <State/Tribe name> exempts de minimis fires from meeting the regulations. <State/Tribe name> exempts fires that cover fewer than <X> acres or consume less than <Y> tons of fuel.

In developing and implementing this SMP, <State/Tribe name> worked with public wildland managers, private and Indian wildland owners/managers, and the general public. Documentation of outreach is in <Appendix>.

OPTION B – <State/Tribe name> certified that a program has been adopted and implemented.

<State/Tribe name> certified in a letter to the Administrator of EPA, that a basic program (described above under Option A, taken from section VI of the Interim Air Quality Policy on Wildland and Prescribed Fires) has been adopted and implemented. (Special consideration will be given to air quality data resulting from fires managed for resource benefits if a letter was submitted.) (See section VII.A of the Interim Policy.)

<State/Tribe name> sent the letter to the Administrator of EPA on <date(s)>.

EPA's reply is included in <Appendix>.

OPTION C - <State/Tribe name> did not adopt a smoke management program.

Fires in <State/Tribe name> do not significantly contribute to visibility impairment in mandatory Class I Federal areas. Therefore, there is no need for a SMP in this SIP.

10.5.6 Enforceability of emission limitations and control measures

40 CFR section 51.308(d)(3)(v)(F) requires <State/Tribe name> to ensure that emission limitations and control measures used to meet reasonable progress goals are enforceable.

<State/Tribe name> has ensured that all emission limitations and control measures used to meet reasonable progress goals are enforceable by embodying these in the administrative orders and the State/Tribe-adopted rules found in Appendix and the section addressing BART. <State/Tribe name> requests EPA approval of these measures.

10.5.7 Anticipated net effect on visibility resulting from projected changes to emissions

40 CFR section 51.308(d)(3)(v)(G) requires <State/Tribe name> to address the net effect on visibility resulting from changes projected in point, area and mobile source emissions by 2018.

The emission inventory for <State/Tribe name> projects changes to point, area and mobile source inventories by the end of the first implementation period resulting from population growth; industrial, energy and natural resources development; land management; and air pollution control. A summary of these changes is given in Table<insert #> for each of the pollutants addressed in the regional haze inventory. More detail is provided in Appendix <letter>.

Table <insert #> Emission from Point, Area and Mobile Sources in < State/Tribe name>

	2000	2018 Basecase	2018 with Additional Measures for RFP
Total Point Sources			
Total Areas Sources			
Total mobile Sources			

The net effect of these emission differences on visibility in Class I areas was discussed in the weight of evidence demonstration provided in Appendix <letter>.

11. Comprehensive Periodic Implementation Plan Revisions

40 CFR section 51.308(f) requires a State/Tribe to revise its regional haze implementation plan and submit a plan revision to EPA by July 31, 2018 and every ten years thereafter. In accordance with the requirements listed in Section 51.308(f) of the federal rule for regional haze, <State/Tribe name> commits to revising and submitting this regional haze implementation plan by July 31, 2018 and every ten years thereafter.

In addition, Section 51.308(g) requires periodic reports evaluating progress towards the reasonable progress goals established for each mandatory Class I area. In accordance with the requirements listed in Section 51.308(g) of the federal rule for regional haze, <State/Tribe name> commits to submitting a report on reasonable progress to EPA every five years following the initial submittal of the SIP/TIP. The report will be in the form of a SIP/TIP revision. The reasonable progress report will evaluate the progress made towards the reasonable progress goal for each mandatory Class I area located within <State/Tribe name> and in each mandatory Class I area located outside <State/Tribe name>, which may be affected by emissions from within <State/Tribe name>. All requirements listed in 51.308(g) shall be addressed in the SIP/TIP revision for reasonable progress.

12. Determination of the Adequacy of the Existing Plan

Depending on the findings of the five-year progress report, <State/Tribe name> commits to taking one of the actions listed in 40 CFR section 51.308(h) {list out for clarity}. The findings of the five-year progress report will determine which action is

appropriate and necessary.

List of Possible Actions – 40 CFR section 51.308(h)

1) <State/Tribe name> determined that the existing SIP required no further substantive revision in order to achieve established goals. <State/Tribe name> provided to the Administrator a negative declaration that further revision of the SIP is not needed at this time>
2) <State/Tribe name> determined that the existing SIP may be inadequate to ensure reasonable progress due to emissions from other states which participated in the regional planning process. <State/Tribe name> provided notification to the Administrator and the states that participated in regional planning. <State/Tribe name> collaborated with states through the regional planning process to address the SIP's deficiencies.
3) <State/Tribe name> determined that the current SIP may be inadequate to ensure reasonable progress due to emissions from another country. <State/Tribe name> provided notification, along with available information, to the Administrator.
4) <State/Tribe name> determined that the existing SIP is inadequate to ensure reasonable progress due to emissions within the <State/Tribe name>. <State/Tribe name> will revise/has revised its SIP to address the plan's deficiencies. {State/Tribe must address the deficiencies within one year.}

Appendices
(This is a list of the ones we have thus far.)

A. MANE-VU's Final Interim Principles for Regional Planning
B. MANE-VU's Long Range Strategy for Regional Haze Planning
C. Approach to the Calculation of Natural Background Visibility at MANE-VU Class I Areas (June 2004)
D. Summary of Comments and Responses on Draft Approach to the Calculation of Natural Background Visibility at MANE-VU Class I Areas (June 2004)

Guidance Documents

Assessment of Baseline, Natural and Current Conditions
EPA is to develop guidance on calculating ***baseline and current*** visibility. EPA is to develop guidance on calculating baseline in the absence of on-site data. EPA is to develop technical guidance on estimating ***natural*** visibility conditions. EPA to revise the

Interim Air Quality Policy on Wildland and Prescribed Fires which includes guidance on determining the contribution of fire to natural visibility conditions. States should include in the SIP "appropriate methods for estimating natural conditions. It is assumed that the States procedures will use these guidance documents to establish the *Baseline, Background* and *Current* conditions in each Class I Area.

Monitoring Strategy and Emissions Inventory

Visibility Monitoring Guidance document, (EPA-454/R-99-003, June 1999)
http://www.epa.gov/ttn/amtic/files/ambient/visible/r-99-003.pdf

IMPROVE Particulate Monitoring Network - Procedures for Site Selection, (Crocker Nuclear Laboratory, University of California, February 24, 1999) http://www.epa.gov/ttn/amtic/files/ambient/visible/select22.pdf

IMPROVE Particulate Monitoring Network – Standard Operating Procedures Air Quality, (Crocker Nuclear Laboratory, University of California, October 15, 1998) http://www2.nature.nps.gov/ard/vis/sop/index.html

National Park Service Visibility Monitoring internet site, http://www2.nature.nps.gov/ard/vis/vishp.html

EPA Consolidated Emission Reporting Rule, (Federal Register: May 23, 2000, Volume 65, Number 100, Proposed Rules, Page 33268-33280.) http://www.epa.gov/ttn/chief/cerr/CERR_FR.pdf

Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations (EPA-454/R-99-006, April 1999). http://www.epa.gov/ttn/chief/eidocs/eidocfnl.pdf

Best Available Retrofit Technology

Controlling SO_2 Emissions: A Review of Technologies, EPA Office of Research and Development, EPA-600/R-00-093

Guidelines for Determining Best Available Retrofit Technology for Coal-fired Power Plants and Other Existing Stationary Facilities. EPA-450/3-80-009b. November 1980. This document addresses reasonably attributable BART not regional haze BART. However, it will be the basis for regional haze BART guidance being developed by EPA. The RH BART engineering analysis will be similar to the RA BART guidance of 1980.

40 CFR part 51 Regional Haze Regulations; Final Rule. EPA. Federal Register Vol. 64, No 126/ Thursday, July 1, 1999. The

preamble discusses RH BART in detail.

Guidance for Demonstrating Attainment of Air Quality Goals for $PM_{2.5}$ and Regional Haze. EPA. Draft 2.1, January 2, 2001.

This document, when finalized in 2001, will provide guidance on how to use modeled and monitored data to estimate if visibility goals for regional haze will be met by a proposed control strategy.

Voluntary Emissions Reduction Program for Major Industrial Sources of Sulfur Dioxide in Nine Western States and a Backstop Market Trading Program. An Annex to the Report of the Grand Canyon Visibility Transport Commission. Western Regional Air Partnership. October 1, 2000.

This document describes an emissions trading program and provides a model rule and draft memorandum of understanding between states and tribes for implementing an interstate emissions trading program.

Proposed Guidelines for Best Available Retrofit Technology (BART) Determinations Under the Regional Haze Regulations. EPA. Draft January 12, 2001. This document, when finalized in 2001, will provide the guidance on RH BART. It was recently proposed in the Federal Register. The final document will be Appendix Y of Part 51. It will address the RH BART engineering analysis, cumulative visibility assessment, and emission trading alternatives.

Improving Air Quality with Economic Incentive Programs. EPA - 452/R-01-001. January 2001.

This document provides guidance for economic incentive programs including emission trading programs that states may incorporate in their strategies for meeting air quality standards and addressing visibility impairment in national parks and wilderness areas.

Reasonable Progress Goals

Controlling SO_2 Emissions: A Review of Technologies, EPA Office of Research and Development, EPA-600/R-00-093

EPA Clean Air Technology Center • Control Cost Manual (5th edition) - http://www.epa.gov/ttn/catc/products.html

EPA BART guidelines (soon to be proposed) •
http://www.epa.gov/ttn/oarpg/t1pfpr.html

EPA Guidelines for Preparing Economic Analyses •
http://www.epa.gov/economics/

Guidelines for Determining Natural Background, to be developed by EPA.

Guidelines for interpreting statutory factors, to be developed by EPA.

Regional Haze Regulations, Final Rule, 40 CFR, Part 51, July 1, 1999.

Long Term Strategy

Guidance for Demonstrating Attainment of Air Quality Goals for $PM_{2.5}$ and Regional Haze (EPA, OAQPS, draft 2.1, January 2, 2001)

Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations (EPA-454/R-99-006, April 1999)

Proposed Guidelines for Best Available Retrofit Technology (BART) Determinations Under the Regional Haze Regulations. This proposal will be published in the *Federal Register* soon.

[1] *Protecting Visibility in National Parks and Wilderness Areas*. National Research Council. Washington, DC: 1993.

[2] A description of MANE-VU and a full list of its members is described later in this document.