USDA United States Department of Agriculture

Forest Service

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File Code: 2500
Date: August 7, 2013

Margaret Earnest
Texas Commission of Environmental Quality
State Implementation Plan Team-Office of Air
MC 206
PO Box 13087
Austin, TX 78711-3087

Dear Ms. Earnest:

The Ouachita and Ozark-St. Francis National Forests appreciate the opportunity to review and comment on the 2013 Texas State Implementation Plan (SIP) revision by the Texas Commission on Environmental Quality (TCEQ).

We are providing these comments to TCEQ and ask that they be placed in the official public record. Please be reminded that the Ouachita and Ozark-St. Francis National Forests are considered Federal Land Managers under the 40 CFR regulations. We look forward to your response as per section 40 CFR §51.308 (i)(3) and are willing to work with TCEQ staff to address any of issues discussed in this letter.

Again, we appreciate the opportunity to work closely with TCEQ, and compliment you on your hard work and dedication to significant improvements in our nation's air quality values and visibility.

Sincerely,

(for) NORMAN L. WAGONER
Forest Supervisor
Ouachita National Forest

for REGGIE L. BLACKWELL
Acting Forest Supervisor
Ozark-St. Francis National Forests

Enclosures (2)

FS Comments regarding TCEQ's Proposed Regional Haze Implementation Plan Revision of June 18, 2013

The Forest Service appreciated the opportunity to comment on the proposed Regional Haze plan revision.

Texas submitted a Regional Haze (RH) plan to the Environmental Protection Agency (EPA) on February 25, 2009. On December 30, 2011, the EPA issued notice to Texas (and other states) that because the states' regional haze SIP revisions relied on the Clean Air Interstate Rule (CAIR) to satisfy certain emission reduction requirements, the EPA was proposing a limited disapproval of the states' SIP revisions and a federal implementation plan (FIP) to replace reliance on CAIR with reliance on the Cross-State Air Pollution Rule (CSAPR). On August 21, 2012, the United States Court of Appeals for the District of Columbia vacated CSAPR and determined that CAIR will remain in place until the EPA develops a valid replacement rule. EPA has suggested states and the agency move forward as if a federal trading program will be functioning after court suits are settled.

It is our understanding that the Proposed Regional Haze Implementation Plan Revision makes no changes to the existing regional Haze SIP and calls for no additional controls. We feel this plan does not go far enough as we said in our previous comments in 2008. It appears that very few of the significant concerns we had with the original SIP have been addressed. While there have been some improvements to air quality we do not agree with the reasonable progress rate that Texas has chosen to use. The use of an alternative glide path adopted by Texas without the EPA default glidepaths does not allow a proper comparison for the reader. See our previous comment #3 in our letter dated January 10, 2008.

Even though Central Regional Air Planning Association (CENRAP)[1] modeling indicated that they would reach the Uniform Rate of Progress (URP), there is great uncertainty around this modeling. In addition, modeling from Both Midwest Regional Planning Organization (MWRPO) and The Visibility Improvement State and Tribal Association of the Southeast (VISTAS) indicated that the Class 1 areas in Arkansas and Missouri may not meet the URP. This proposed revision still does not identify the impacts to the Class 1 Areas for Texas's emissions. See our previous comment #2 in our letter dated January 10, 2008.

The impacts from Texas sources are still divided into 3 separate areas without the more relevant display of all Texas sources as a whole. Reductions stated in the proposed revision vary for each area, leading to pollutant control inconsistencies and a level of reductions lower than would otherwise be made. If one section can reduce emissions to a particular amount then they should all be able to reduce emissions to that same amount and not allow some areas to have higher emissions. See our previous comment #3 in our letter dated January 10, 2008.

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[1] Central Regional Air Planning Association (CENRAP) is an organization of states, tribes, federal agencies and other interested parties that identifies regional haze and visibility issues and develops strategies to address them. CENRAP is one of the five Regional Planning Organizations (RPOs) across the U.S. and includes the states and tribal areas of Nebraska, Kansas, Oklahoma, Texas, Minnesota, Iowa, Missouri, Arkansas, and Louisiana.

There was still no analysis of area of influence for Class 1 areas affected by Texas to form the basis of an adequate four factor analysis supporting the reasonable progress goals (RPGs) set by states with Class 1 areas impacted by Texas sources. See our previous comment #6 in our letter dated January 10, 2008.

And lastly, under consultation with Federal Land Managers provisions (40 CFR §51.3-8 (i)), you failed to adequately consult with the Forest Service. While it is commendable that you consulted with the National Park Service and the Fish and Wildlife Service, it does not relieve you of your responsibility to consult with the Forest Service. The National Park Service does not speak for the Forest Service even though we often agree with their comments.

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USDA United States Department of Agriculture | Forest Service | Ouachita National Forest | P.O. Box 1270 Hot Springs, AR 71902

File Code: 2580-2
Date: January 10, 2008

RECEIVED
JAN 15 2008
EXECUTIVE DIRECTOR

Glenn Shankle
Executive Director
Texas Commission on Environmental Quality
Mail Code 109
Post Office Box 13087
Austin, TX 78711-3087

Dear Mr. Shankle:

On November 16, 2007, the State of Texas submitted a proposed State implementation plan (SIP) describing its proposal to improve air quality regional haze impacts at mandatory Class I areas across your region (reference TCEQ project number 2007-016-SIP-NR). Technical appendixes that are referenced in the SIP were received from the State on November 26, 2007. We appreciate the opportunity to work closely with the State through the initial evaluation, development, and, now, subsequent review of this plan. Cooperative efforts such as these ensure that, together, we will continue to make progress toward the Clean Air Act's goal of natural visibility conditions at all of our most pristine National Parks and Wilderness Areas for future generations.

The U.S. Department of Agriculture, U.S. Forest Service, received and has conducted a substantive review of your draft Regional Haze Rule implementation plan, which you are preparing in fulfillment of your requirements under the federal regulations 40 CFR 51.308(i)(2). Please note, however, that only the U.S. Environmental Protection Agency (EPA) can make a final determination regarding the document's completeness and, therefore, ability to receive federal approval from EPA.

As outlined in a letter sent to each State in October, 2006, our review focused on eight basic content areas. The content areas reflect priorities for the Federal Land Manager agencies, and we have enclosed comments associated with these priorities. Note that we have highlighted comments in bold face that discuss what we consider to be major concerns of the proposed SIP that we believe warrant additional consultation prior to final adoption of the Texas Regional Haze Plan. The Forest Service air quality staffs stand ready to work with you towards resolution of these issues. We look forward to your response, per section 40 CFR 51.308(i)(3). For further information, please contact Judith Logan at (501) 321-5341.

Again, we appreciate the opportunity to work closely with the State of Texas and compliment you on your hard work and dedication to significant improvement in our nation's air quality values and visibility.

Sincerely,

NORMAN L. WAGONER
Forest Supervisor

cc: David C. Schanbacher, Susana Hildebrand, Richard A. Hyde, Annette Sharp, Patrick Cummins, Guy Donaldson, Joe Kordzi, Chris Pease

January 10, 2008

Enclosure

Forest Service Technical Comments on Texas' Commission on Environmental Quality(TCEQ) Draft Regional Haze State Implementation Plan (SIP)

Overall Comments

As stated in our letter, we appreciate the opportunity to work with your agency through the initial evaluation, development, and, now, subsequent review of this plan. To facilitate review, we have formatted in **bold** text those items that are of significant concern to the US Forest Service and we request additional consultation with TCEQ staff on these issues before final adoption of the Texas SIP. A list of some of the most significant issues is highlighted here:

1. **The adoption of an unprecedented 20% impact cutoff for evaluating impacts to Class I areas outside of Texas without supporting rationale for using this level of significance.** This level is 4 times higher than any other level we've seen in SIPs from other states to date. This cutoff allows Texas to disregard Class 1 areas outside of the state. **Since existing and predicted future visibility impairment at many nearby Class I areas outside of Texas is more attributable to Texas' emissions than those of the host States, it is imperative that Texas use an impact cutoff that is more reasonable or justify why this level of impact was chosen. The Forest Service (FS) requests that an area of influence analyses (AOI) be conducted. It is also important to confer with the host States when generating and refining these AOIs and when interpreting whether controls at specific contributing sources are cost beneficial.**

2. **Given the uncertainty of the modeling, and, in particular, the implementation of Clean Air Interstate Rule (CAIR), the disregard of impacts to Class I Areas in Arkansas and Missouri.** Although these two states ended their formal consultation with surrounding states when Central Regional Air Planning Association (CENRAP)[1] modeling indicated that they would reach the Uniform Rate of Progress (URP), there is great uncertainty around this and modeling from both Midwest Regional Planning Organization (MWRPO) and The Visibility Improvement State and Tribal Association of the Southeast (VISTAS) indicates that these Class I Areas may not meet this rate. The Federal Land Managers (FLMs) expressed this concern in our comments to Missouri regarding their draft SIP. As Particulate Source Apportionment Technology

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[1] Central Regional Air Planning Association (CENRAP) is an organization of states, tribes, federal agencies and other interested parties that identifies regional haze and visibility issues and develops strategies to address them. CENRAP is one of the five Regional Planning Organizations (RPOs) across the U.S. and includes the states and tribal areas of Nebraska, Kansas, Oklahoma, Texas, Minnesota, Iowa, Missouri, Arkansas, and Louisiana.

(PSAT) results indicate that Texas sources are the largest contributor to visibility impacts at these wilderness areas, particularly at Caney Creek Wilderness in Arkansas, we request that Texas analyze and disclose fully their impacts to these Class I areas. The long term strategy and four factor analysis for reasonable progress should address these Class I areas (Caney Creek and Upper Buffalo).

3. **The use of alternate glidepaths throughout the body of the SIP without showing the United States Environmental Protection Agency (EPA) default glidepaths to allow proper comparison for the reader.**

4. **Display of impacts from Texas sources are divided into 3 separate areas without the more relevant display of impacts from Texas as a whole, and displaying only impacts from one portion of Texas in some discussions of impacts to out of state Class I areas.**

5. **The apparent lack of formal consultation with states showing a high level of contribution from Texas sources such as New Mexico, Louisiana, and Colorado.**

6. **The lack of area of influence analysis for Class I areas affected by Texas to form the basis of an adequate four factor analysis supporting the reasonable progress goals (RPGs) set by states with Class I areas impacted by Texas sources. The federal Regional Haze rule mandates that each State develop a plan to make progress toward visibility impairment at all Class I areas. The reasonable progress analyses are missing specific information about Texas's contributions to visibility impairment at Caney Creek Wilderness Area, Upper Buffalo Wilderness Area in Arkansas and other out-of-State Class I areas in Oklahoma, New Mexico, and Louisiana. Although the Proposed SIP references that the TCEQ consulted with Oklahoma at their request, the Texas Proposed SIP fails to document how emissions and impacts from Texas' sources were addressed. Although TCEQ concludes that the already planned controls between now and 2018 are reasonable, it fails to address how multiple issues which prevent the State from accurately determining future emissions from specific sources will result in anything more than luck with respect to addressing Texas' substantial contribution to visibility improvement at Class I areas inside and outside of its territory. The FS requests that an analysis based on an area of influence be developed and a full reasonable progress evaluation covering Texas' sources be established for Caney Creek Wilderness Area, and Upper Buffalo Wilderness Area as a precursor to a focused five-year review. The State should also establish in the regional haze SIP a process for ongoing discussions and consultations with neighboring States and FLMs on the progress of CAIR and PSD/NSR efforts.**

Specific Comments

The following comments are organized by Section of the draft SIP.

Executive Summary

Page 1, paragraph 1. The sentence defining Class I areas as those "... that Congress has recognized at significant sites" would be better worded as "Class I areas are national parks over 6000 acres and wilderness areas over 5000 acres that were in existence before August 7, 1977."

Page 1, paragraph 3. **Texas states that "Where Texas' emission impact visibility in Class I Federal Areas in other states, the Texas SIP must include plans to reduce Texas' visibility impacts in those areas too." However, later in the SIP, Texas indicates 20% is the level of visibility impact below which Texas will not plan to reduce those impacts. A 20% impact cutoff is arbitrarily and unrealistically high. Use of a 20% impact cutoff negates the legitimate need to address Texas source impacts to Class I areas in Arkansas, Missouri, and Louisiana. For example, the PSAT regional source apportionment work of ENVIRON, as contracted by CENRAP, demonstrates that Texas's approximate 13% contribution to the visibility extinction at Arkansas' Caney Creek on the 20% worst days during 2002 was greater than any other state's, including that of Arkansas. East Texas' 11% contribution alone exceeded Arkansas' 9% contribution (see Figure 5-10 in CENRAP's Technical Support Document). Contribution assessments of Upper Buffalo, Hercules-Glades, Mingo, and Breton may show similar if not as dramatic results. Texas not addressing its visibility impacts could jeopardize those Class I areas meeting their URP, as indicated by the Midwest Regional Planning Organization (MWRPO) 2018 R4S1a modeling run, results of which are graphed in Figure 5-1 of CENRAP's Technical Support Document. For all Class I areas in adjacent states, Texas should indicate what level of visibility impact abatement will result from its proposed 2018 control measures.**

Within the Executive Summary, Texas should quantitatively summarize its Reasonable Progress Goals and associated rationale for each Class I Area addressed in the SIP.

In the List of Acronyms on page ix, the following are listed as wilderness areas, but are, in fact, national parks: Badlands, Bandelier, and Great Sand Dunes.

Chapter 1 Background and Overview of the Federal Regional Haze Regulation

While Big Bend and Guadalupe Mountains, Class I areas within Texas, are identified in Chapter 1, other Class I areas identified elsewhere in the SIP as being impacted by Texas sources are not identified in this chapter. Including a summary of those other impacted Class I areas would provide balance to this chapter.

Chapter 2 General Planning Requirements

Page 2-1, Introduction. We appreciate that Texas documents coordination with the (FLMs) and abandoned one approach based on the FLM recommendations. We look forward to continued consultation in the future.

Chapter 4. State, Tribe, and Federal Land Manager Consultation

Page 4-1, Introduction. Texas states that "If a state determines it has emissions that are reasonably anticipated to contribute to visibility impairment in any Class I area in another state, that state must consult with the other states when developing its long-term strategy." However, by arbitrarily setting a 20% impact level cutoff, and choosing not to consider its sources' contributions as established by CENRAP's establishment of Area of Influences (AOIs), Texas has not fully fulfilled its obligations relative to this statement (see comments related to the Executive Summary above).

Section 4.3, Consultations on Class I Areas in Other States, page 4-2, Last paragraph. Although these states (Louisiana, Colorado, and New Mexico) have not invited Texas to formal participation in their consultation process, this is, in some cases, simply a function of their timing, not an implicit acceptance of Texas' long term strategy and SIP analysis.

Chapter 5. Assessment of Baseline and Current Conditions and Estimate of Natural Conditions in Class I areas

Section 5.3, Natural Visibility Conditions, page 5-3. Although Texas certainly has the right to develop an alternate methodology to determine natural conditions, as we requested in the consultation process, the default EPA methodology should also be displayed in comparison wherever natural conditions and glidepaths to those conditions are referenced in the document. They should not be segregated in an Appendix to the SIP.

Chapter 6. Monitoring Strategy

Section 6.2 and 6.4 Reporting Visibility Monitoring to the Administrator. Texas should have a contingency plan for monitoring and reporting of data in case the Interagency Monitoring of Protected Visual Environments (IMPROVE)[2] program curtails operation of IMPROVE monitors or funding for Visibility Information Exchange Web System (VIEWS).

[2] To aid the implementation of the Clean Air Act of 1977, the IMPROVE program was initiated in 1985. This program implemented an extensive long term monitoring program to establish the current visibility conditions, track changes in visibility and determine causal mechanism for the visibility impairment in the National Parks and Wilderness Areas.

Section 7.0: Emissions Inventory

Section 7 Emissions Inventory, page 7-1, paragraph 3. It is unclear to which SO_2 emissions this paragraph refers– on road emissions? Is this referring to 2002 or 2018 emissions? This should be clarified.

Page 7-2, paragraph 5. Is this stating that since point source emissions have declined in every year, that therefore the 2018 modeling over predicts? This needs to be thoroughly justified.

Section 8.0 Modeling Assessment

Section 8.4.16, pages 8-15 and 8-16, Figures 8- 4 and 8-5. The captions say these used the 2002 base F emission inventory, but the headings for the graph say that they were Typ02g. Please clarify?

Section 8.4.17, page 8-18, paragraph 2. While high contributions from international transport and/or natural sources certainly affect progress for Class I areas such as Big Bend, this statement doesn't necessarily apply to the northern Class I areas lumped in with it (Voyagers National Park (VOYA), Boundary Waters Canoe Area Wilderness (BOWA), and Isle Royal National Park (ISLE).) In fact, frequently transport from Canada is associated with the cleanest days at these Class I areas, rather than the dirtiest.

Figure 8-6, page 8-18. Please refer to Badlands National Park (NP), not Badlands Wilderness Area.

Section 8.4.18, page 8-19, paragraph 1. Midwest RPO used Integrated Planning Model (IPM) 3.0 rather than 2.1.9. Please correct, and justify the use of IMP 2.1.9. in light of EPA's recent indication that IPM 3.0 provides a significantly more accurate prediction of future EGU operating scenarios and emissions.

Chapter 9. Best Available Retrofit Technology

The Regional Haze rule establishes Best Available Retrofit Technology (BART)[3] criteria for exempting sources that are determined to be non-significant. EPA offers an upper bound to that single source significance level at 0.5 deciviews (dv). Texas must provide a discussion or justification how it arrived at its selected threshold value. In the case of Texas, it appears that BART controls may have a cumulative effect on Class I area visibility and that a lower value than EPA's upper bound for BART exemption may have produced a noticeable difference. At a minimum, a lower threshold level could have provided the State with important specific source information on these sources. As Texas's own BART analysis showed on page 4-7 in BART final report…"The largest

[3] BART-eligible sources are those sources that have the potential to emit 250 tons or more of a visibility-impairing air pollutant, were put in place or under construction between August 7, 1962 and August 7, 1977, and whose operations fall within one or more of 26 specifically listed source categories. Under CAA section 169A(b)(2)(A), BART is required for any BART-eligible source which "emits any air pollutant that may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area."

estimated visibility impairments occurred at the Class I areas near northeast Texas, in Arkansas and southern Missouri (Caney Creek Wilderness Area, Hercules-Glades Wilderness Area, and Upper Buffalo Wilderness Area), while the next highest estimated visibility impacts occurred near western Texas (Big Bend NP (BIBE) and Guadalupe Mountains NP (GUMO)) and northern Texas (Wichita Mountains Wilderness in Oklahoma)."Given this information, Texas should justify their use of the 0.5 deciviews screening threshold for BART determinations.

Chapter 10. Reasonable Progress Goals

The use of 20% cutoff of impairment contributions to Class I areas outside the state is extremely high and is unprecedented. Without thorough justification as to how they arrived at this number, Texas' threshold is considered unreasonable. Although Texas' BART analysis showed most impacts from BART sources occurred to the northeast of Texas, using this 20% figure has effectively eliminated evaluation of Class I areas in this region. We vigorously object to the use of this 20% threshold.

Section 10.1, Table 10-1, page 10-1. It should be made clear that this table is based on Texas' alternate calculation of natural background and does not use the EPA default method. The improvement needed based on the EPA default method is considerably more (10.14 dv by 2064 for BIBE instead of 7.2, and 11.24 dv for GUMO instead of 4.9). This comment carries through this entire section. During an FLM consultation call, the Forest Service recommended to Texas that they show the EPA default method and any alternate methodology together in the body of the SIP. Instead of following the FLM recommendation, the standard methodology is buried in the appendices, and therefore the public does not get the full picture and a comparison of the methods by reading the SIP as drafted.

Section 10.2, page 10-2. It would be most helpful if Texas would at least summarize the results of the four factor analysis in the body of the SIP.

Pages 10-2, 10-3. Texas should show the default glidepaths in the body of the SIP as well as their alternate glidepaths.

Page 10-3, paragraph 1 and Table 10-3. Texas correctly uses the modeled value for the 20% best days as their Reasonable Progress Goal. As part of the consultation process, the Forest Service has indicated to several other states their incorrect interpretation, we commend Texas for setting this RPG correctly.

Page 10-3, last paragraph. A summary of the four factor analysis should be brought into the body of the SIP.

Page 10-4, Table 10-4. If these are average control costs from the entire CENRAP region from Minnesota to Texas, this does not give a very accurate description of costs sources would incur in Texas. Texas should determine and utilize costs more representative of the Southern tier of CENRAP states.

Page 10-4, Table 10-5. Texas should show modeling results based on visibility improvements for all Class I areas affected by their emissions using a threshold more in line with that used by other states, not just looking at the effectiveness at the two Class I areas in western Texas.

Page 10-5, paragraph 4. Based on the sentence in the paragraph above that no electric generating unit (EGU) was able to make an enforceable commitment to any particular pollution control strategy, Texas has no basis to state that the IPM projections are an over prediction (as this first, partial sentence seems to indicate). In fact, the IPM projections could be an under prediction and therefore do not add to the justification for not pursuing any additional controls.

Section 10.5, page 10-6. Again, this uniform rate of progress shown is not the EPA default rate, and this should be indicated.

Chapter 11.0 Long-Term Strategy to Reach Reasonable Progress Goals

11.1 Long Term Strategy, page 11-1. The second paragraph refutes the argument that Texas makes later that assumes 100% of coarse mass (CM) is natural. Although we agree that the majority of coarse mass likely is natural, some portion of it is likely anthropogenic. Therefore, Texas should consider treating some percentage determined in consultation with the FLMs and EPA as anthropogenic.

Although CENRAP ran PSAT dividing Texas into 3 parts at the state's request, whenever Texas's contribution to extinction is shown relative to other states the three sections of Texas should be added together to show the state's contribution as a whole and to allow for a fair comparison with other states.

Section 11.2, page 11-3. As previously mentioned, the fact that Texas has not received a formal invitation for consultation from Colorado, Louisiana or New Mexico does not mean that these states accept Texas' Long Term Strategy as adequate for producing Texas' share of emissions reductions to help meet RPG's at each state's respective Class I areas. Colorado and New Mexico have not completed their RPG analysis and are further behind in the process. This lack of consultation should be noted in the SIP, and Texas should display its present and projected impacts to those state's Class I areas.

Pages 11-4 and 11-6, Figures 11-4 and 11-7. These analyses showing only the PSAT results for emissions from West Texas could be misleading, and would be more informative if they included all emissions from Texas.

Pages 11-5 – 11-8. It would be very informative and helpful if Texas would show the PSAT results for the 20% best days as well as the 20% worst days.

Again, it may be misleading to divide Texas into three parts, without also showing the impacts at each Class I from Texas as a whole. Throughout the rest of the document, the state is discussed as a whole and that should occur here also.

Section 11.4, page 11-9. We are concerned about the relationship between the Regional Haze Plan and the Prevention of Significant Deterioration (PSD) permitting process. The Regional Haze Rule seeks to improve visibility on the haziest days, while allowing no degradation on the clearest days, focusing primarily on existing emissions sources and incremental improvement by 2018. Prevention of Significant Deterioration also seeks no degradation of visibility on the clearest days, focusing on new sources of pollution that will be operating for many years into the future. The two "programs" have a similar goal of no degradation on the clearest days, but have different processes and timeframes for reaching the goal. Given the uncertainty in the new source growth estimates used to develop the 2018 emissions inventory, and ultimately the 2018 visibility projections, we feel it would be appropriate for the state to discuss the relationship between the Regional Haze Plan and requirements of the Prevention of Significant Deterioration (PSD) program within the SIP. Specifically, how does Texas anticipate addressing new sources of air pollution in the PSD process in regards to its reasonable progress goals and long term strategy; and, how will it analyze the effect of new emissions from these new sources on progress toward the interim visibility goals established under this SIP, as well as the ultimate goal of natural background visibility by 2064?

We understand that Texas has been providing notification to the FLMs only for major-source actions within 100 km of Class I areas and, in a letter dated August 21, 2007 requested that Texas reconsider that policy and work with the FLMs to come up with a mutually acceptable policy of notification to the FLMs and surrounding states regarding New Source Review. Including resolution of this issue in the SIP would greatly strengthen the position that clean days are being maintained.

Section 11.4.4, page 11-10. Does agricultural burning occur in Texas? Is it regulated? To maintain flexibility in being able to update smoke management provisions, these documents should not be included in the SIP or its appendices.

Chapter 12. Comprehensive Periodic Implementation Plan Revisions and Adequacy of the Existing Plan

Section 12, page 12-1. This section should specifically mention that the SIP review and revision will involve consultation with the FLMs.

Appendix 7-1, Texas Emissions Inventory Development

Section 7.2.2.4, discussion of IPM 2.1.9 vs. IPM 3.0. Since they state that IPM 2.1.9 was constructed when natural gas was prevalent, it is likely that projections for Texas under IPM 3.0 would have higher emissions due to more use of coal.

Texas goes on to say that statewide the emissions projected in both versions were very similar. It would be very helpful for a more detailed discussion of these results and the analysis of EGU impacts on visibility in the listed Class I areas. A map showing the groupings of EGUs would add to the discussion.

Section 7.4, Figures 7-2, 7-3, 7-4, 7-5, 7-6, 7-7, and 7-8. In any comparison with other states or anytime Texas is discussing their impacts as a state, they should add the emissions or visibility impacts in inverse mega meters for the entire state, rather than showing the state's emissions or impacts divided into 3 geographical areas.

Appendix 10-1, Analysis of Control Strategies and Determination of Reasonable Progress Goals

Chapter 11: Long-Term Strategy to Reach Reasonable Progress Goals. This chapter demonstrates that NOx and SO_2 are the main anthropogenic pollutant emissions that affect visibility at Class I areas in Texas and in neighboring states. Table 1 summarizes the percentage contribution of various pollutants at the Texas Class I areas and those Class I areas in other states that PSAT modeling indicates receive more than 20% of their visibility impairing haze from Texas emissions in the 2002 base case modeling.

Table 1: Pollutant Impacts on Visibility at the Class I Areas with a 20 Percent or Greater Impact from Texas Emissions

Source	BIBE*	GUMO*	WIMO*	CACR*	WHIT*
SO_4	49.7	57.7	54.7	43.2	52.9
NO_3	4.4	10.2	22.5	26.1	14.7
POA	16.4	6.1	6.2	8.2	7.1
EC	9.1	6.6	5.3	7.4	7.4
Soil	6.7	6.8	4.6	6.0	6.8
CM	7.1	4.0	3.8	2.9	1.8
SOAA	1.9	2.7	1.4	2.2	3.4
SOAB	4.6	5.8	1.5	4.1	5.9

While we agree that SO_2 is the main anthropogenic pollutant affecting visibility at Class I areas in Texas and neighboring states, Table 1 is misleading because it limits Texas visibility impacts to an unprecedented 20%, a value four times greater than any other state surveyed by the Forest Service. As a starting point for all subsequent analyses, this 20% impact cutoff unjustifiably limits the number of sources Texas should consider for control, and minimizes the number of Class I areas which would benefit. This also has the effect of artificially raising the cost effectiveness of controls as many of the sources are in eastern Texas where the benefits of controls would be greatest in nearby Class I air sheds, not for those further to the west. For example, an analysis done for the CENRAP by Alpine Geophysics demonstrated that East Texas is included in the first level SO_4 Area of Influence (AOI) for Hercules Glades, Upper Buffalo, Caney Creek and Mingo Class I areas. In addition, the 20% impact cutoff, as utilized, does not take into account that many sources not considered in the SIP may impact more than one Class I area to an

extent that could be viewed as additive in nature, thus exceeding this arbitrary 20% level. This becomes more important when considering Class I areas in Louisiana, Arkansas, and Missouri, states that are not considered within the Texas SIP, are states modeled to not meet the URP by one or more Regional Planning Organizations. For example, Midwest RPO's 2018 R4S1a model run indicates that Breton, Caney Creek, Upper Buffalo, and Hercules Glades Wilderness Areas will not meet URP.

When looking at cost effectiveness of controls for sources, added emphasis and additional consideration should be given to those sources within the AOIs of more than one Class I area.

Table 2, page 2. Texas should explain what is meant by the terms, Elevated Point and Low Level Point. Is this referring to a high elevation or low elevation modeling point?

Section 1.3, page 4. Without analysis of sources on the Northeastern side of Texas and Class I areas affected by these sources, this section is of limited value. Also, Texas should show the four factor analysis by which it determined no further controls on cement kilns for NOx was reasonable.

Last paragraph in section. It is also entirely possible that the costs were overestimated.

Section 10-1.4 Proposed Controls, page 5, Table 5. Texas should display the results for all the Class I areas analyzed in other parts of the SIP, not just for the two within the state boundaries.

Cost: The $300 million figure with no perceptible benefit determination stemmed from Texas arbitrarily limiting impact levels considered for Class I areas to 20% (see 20% section above). In addition, the approximate $300 million figure was calculated utilizing sources that will be controlled by CAIR. Since those sources will be controlled with On The Books (OTB) controls, it is more appropriate to consider source-by-source controls for those sources not subject to OTBs controls. This would potentially push the incremental costs down considerably.

Time of Compliance: This paragraph simply provides the reason this was not considered and points to the need for a source by source analysis. No calculations are provided to justify the conclusion. The concept that instituting controls near the 2018 date would reduce the cost effectiveness in cost per ton is dubious. Cost per ton is determined at a fixed rate at a fixed time, independent of any year except that used in the determination.

Non-air quality environmental impacts of compliance: Texas states that source by source review would lead to a different conclusion from a control being unreasonable cannot be supported without actually conducting a source by source review.

Appendix 10-2 Estimating Visibility Impacts from Additional Point Source Controls

This entire section should estimate impacts to the other Class I areas listed, both in and out of state.

In Appendix 10-2, related to cost of additional point source controls, it is assumed that 2018c control data relate to the Texas components of Base G C1 Control Strategy as outlined in CENRAP's technical support document (TSD.) Texas provided no source-by-source determinations to identify sources that individually may have had a relatively high visibility impact on a particular Class I area(s). Without evaluating the benefits of controls for those sources, it is difficult to evaluate the validity of Texas' claim that additional controls are not cost effective. Also, by eliminating consideration of additional point source controls for those Class I Areas such as Breton, Wichita Mountains, and White Mountain that are not predicted to meet the URP, Texas does not justify how it is contributing to its proportion of controls necessary to help these states work toward the URP.