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Forest  
Service

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File Code: 2580

Date: December 10, 2007

Paul Tourangeau  
Director Air Pollution Control Division  
Colorado Department of Public Health and  
Environment  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530

Dear Mr. Tourangeau:

On August 3, 2007, and again on October 29, 2007 (subsequently withdrawn) the State of Colorado submitted a draft implementation plan describing your proposal to improve air quality regional haze impacts at mandatory Class I areas across your region. 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 our Class I wilderness areas and parks.

This letter acknowledges that the U.S. Department of Agriculture, U.S. Forest Service has received and conducted a substantive review of your proposed Regional Haze Rule implementation plan. Please note, however, that only the U.S. Environmental Protection Agency (EPA) can make a final determination about the document's completeness, and therefore, only the EPA has the ability to approve the document. The Forest Service's participation in the State of Colorado's administrative process does not waive any legal defenses or sovereignty rights it may have under the laws of the United States, including the Clean Air Act and its implementing regulations.

As outlined in a letter to the State of Colorado dated October 4, 2006 (attached), our review focused on eight basic content areas. The content areas reflect priorities for the Federal Land Management agencies, and we have attached comments associated with these priorities. We believe comments highlighted in bold face warrant additional consultation prior to public release. We look forward to your response as required by 40 CFR 51.308(i)(3). For further information, please contact Bud Rolofson at (303) 275-5752 or Ann Mebane at (307) 578-8241.

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

Sincerely,

/s/ Greg Griffith (for)  
RICK D. CABLES  
Regional Forester



Section	Page	Part	Comment
General Comment			The USFS concurs with comments submitted by DOI NPS and DOI USFWS.
<b>General Comment</b>			<b>The August 3, 2007 draft rule lacks a Comprehensive Long Term Strategy for Regional Haze Impairment. Since WRAP projections show none of the Class I areas in the region meeting the uniform rate of progress, the State is obligated to assess control options which might achieve the uniform rate of progress between 2008 and 2018, apply the statutory four factor analysis, and then provide a rationale for its chosen suite of emission control options in light of the four statutory factors and any additional factors relevant to addressing any human-caused impairment at the Class I areas.</b>
General Comment			The August 3, 2007 draft rule does not establish reasonable progress goals for the best and worst visibility days at Colorado's mandatory federal Class I areas as required in Section 51.308(d)(1). Such goals cannot be determined until the State has completed an analysis of the long term strategy options and addressed sources or source categories reasonably anticipated to cause or contribute to visibility impairment. The goals must include deciview levels for the best visibility days that, at a minimum, are no more impaired than those measured in the baseline period. In addition, Section 51.308(d)(1)(vi) requires that any improvement in the best days resulting from ongoing implementation of other air quality programs be incorporated into the reasonable progress goals set by the State.
General Comment			The USFS expects that the State will set reasonable progress goals based on the future work described in Section 8 of the August 3, 2007 draft after fully developing its long term strategy based on the concepts introduced in the October 29, 2007 public materials. The USFS requests the State establish a firm schedule for developing the long term strategy and resulting reasonable progress goals. USFS anticipates ongoing consultation on those activities.
General Comment			USFS recommends that Colorado address the concerns raised by DOI regarding BART sources in the plan and then submit only those provisions specific to control of BART sources to EPA at this time and delay submitting all other portions of the plan until further consultation can occur.
Section 2.1	p.11	Consultation with FLM's	(and also in section 9.2.4, p. 52,) the draft states "The Division will provide, at a minimum, the opportunity for

			consultation with the FLMs at least 60 days prior to any public hearing on any element of the Class I Visibility SIP including LTS revisions and review.” USFS would appreciate a full 60 day review period on the entire SIP including the reasonable progress goals and the long term strategy.
Section 2.3	p. 12	Consultation with Other States	Please provide more documentation as to how Colorado will give neighboring states the opportunity to comment on the RPG's Colorado sets for Class I areas. This consultation should also address Colorado’s contribution to haze at Class I areas in other states and how Colorado’s SIP measures will obtain Colorado’s share of emission reductions needed to meet the reasonable progress goals for these areas.
Section 2.3	p. 12	Consultation with Other States	(and Sections 9.5.2 & 10.1.3) Because surrounding states, particularly Utah, are very significant contributors to impacts at Colorado’s Class I areas, it is essential that Colorado work closely with these states to ensure that these states include in their SIPs all measures necessary to obtain their share of emission reductions needed to meet the RPGs as required by 51.308(d)(3)(ii). Colorado should also work closely with these states to ensure that planned emission reductions actually do occur and produce improvements at Colorado’s class I areas. Colorado should provide an action plan specifically for reviewing RH SIPs from surrounding states including a plan for monitoring / ensuring interstate progress.
Section 3.1	p.12	Monitoring	(and Section 3.3) USFS is interested in continuing dialogue with Colorado regarding the ongoing operation of existing monitoring sites and the need and value of additional monitoring sites particularly in regard to the pending loss of the IMPROVE site at Ripple Creek Pass (expected shut-down by Shell Oil Company in March 2008).
Section 3.3	p.15	Item 5	(and Section 3.5 p. 18 paragraph 5) USFS encourages Colorado to work closely with WRAP, FLMs and industry to adequately and accurately portray current and projected future emissions from oil, gas, and oil shale development projects, particularly when emissions sources are exempt from permits or Air Pollution Emission Notices (drill rig engines & engines less than 10tpy or 100hp) or when emission sources individually fall below state de-minimus levels but in aggregate are substantial sources. Colorado should consider aggregating oil and gas facilities and associated sources in order to permit them as major sources under the PSD program. Future emission control strategies needed for this SIP and future SIPs could be more effective if interrelated energy development sources were managed as major sources as defined in the AQCC regulation

			No.3, Part A, Section I.B.41. USFS believes that accurate inventories for emission sources associated with these types of energy development projects are essential for tracking and projecting RH progress. The same is true for projects located in upwind states that impact Colorado.
Section 3.5	p.18	Monitoring:	Colorado clearly lays out its dependence on the IMPROVE network for monitoring, as well as interpretive and tracking products currently provided by VIEWS and TSS. Colorado makes the case that the funding for this is wholly the responsibility of EPA. Does the state have a contingency plan should funding for these data products change or discontinue?
Section 4.4	p.23	Figure 4-3	Please update with the new numbers posted on VIEWS. These new numbers correct errors made in the original posted numbers used by WRAP and CO. This table should also show the “Natural Conditions” for the 20% Best days as this is equally important information. The 3rd paragraph on pg 24 dealing with the best days should reference the numbers in this (or an additional table in the body of the SIP here) rather than referring the reader to the appendix.
Section 4.4	p.24	Figure 4-4	As above, these numbers need to be updated with those posted on VIEWS and the “Natural Condition” numbers for the 20% Best days should be added.
Section 4.4	p.25	Figure 4-5	Please update with new natural condition numbers posted on VIEWS.
Section 5.4	p.29	Figure 5-2	Please explain (not necessarily in the SIP, but as part of FLM consultation), the large difference in projected emissions for the oil and gas sector in Base 18b from the numbers presented in the October 29 <sup>th</sup> Draft (subsequently withdrawn) of the SIP. The USFS is concerned that a 56% increase in NOx from oil and gas sources may inhibit Colorado from meeting Regional Haze goals if not adequately assessed and managed.
Section 5.4	p.30	Figure 5-3	Please explain (not necessarily in the SIP, but as part of FLM consultation), the large difference in VOC emissions from point sources from the numbers presented in the October 29 <sup>th</sup> Draft (subsequently withdrawn) of the SIP.
Section 5.4	p.33	Figure 5-8	Please explain (not necessarily in the SIP, but as part of FLM consultation), the large difference in NH3 emissions from area sources from the numbers presented in the October 29 <sup>th</sup> Draft (subsequently withdrawn) of the SIP.
Section 6.1	p.35	BART	Please clarify if “CENC Trigen Golden” on this list of BART eligible sources is the same as “Trigen-Colorado” listed as subject-to BART under section 6.2.
Section 6.2	p.36	Explanatory text under Table 6-2	The explanatory note about CSU Drake could be removed as it does not show up in this table.

Section 7.2	p.42	Figure 7.1	Please also show the CMAQ modeling % toward 2018 URP goal results for the best days as well as the worst. Results of this modeling should form the basis of setting the RPG for the best days. Also, the 2018 dv URPs need to be updated based on the corrected natural condition numbers posted on VIEWS.
Section 7.4	p.43	Figure 7-2	Please also show the PSAT results for the best days as well as the worst days.
<b>Section 9.5.1</b>	<b>p.53</b>		<b>Colorado should clearly state what level of contribution to another Class I area it feels to be meaningful. PSAT results show Colorado’s contributions to Class I areas outside the state may be significant. Please see the tables attached titled: “USFS PSAT Analysis of Colorado’s Impact on Class I Areas in Neighboring States.” Also, please note that it is Sycamore Canyon Wilderness Area (managed by the USFS), not Sycamore Canyon National Park.</b>
Section 9.5.9	p.63		Although agriculture may not be a comparatively significant source, 51.308(d)(3)(v)E states that smoke management techniques should be considered for agriculture and forestry.
Section 10.1.3	p. 66-67		Details of interstate consultation, beyond WRAP participation, regarding impacts to Colorado’s Class I areas, or to other Class I areas that Colorado affects would be helpful here.

USFS PSAT Analysis of Colorado's Impact on Class I Areas in Neighboring States:  
(Note: This analysis is based on the most recent PSAT results posted on TSS)

Class I Area	IMPROVE Site	State	Nitrate Impact							
			Best Days				Worst Days			
			2002		2018		2002		2018	
			Impact %	Rank	Impact %	Rank	Impact %	Rank	Impact %	Rank
Grand Canyon NP	HANC1	AZ	1.1	13	1.2	11	0.0	12	0.0	9
Petrified Forest NP	PEFO1	AZ	1.3	10	1.4	10	0.0	9	0.9	9
Sycamore Canyon	SYCA1	AZ	0.5	14	0.6	13	1.3	9	1.6	9
Bosque del Apache WA	BOAP1	NM	1.5	9	1.7	8	4.8	5	4.4	5
San Pedro Parks	SAPE1	NM	7.6	4	7.4	4	2.6	7	2.3	7
Bandelier NM	BAND1	NM	6.4	5	6.2	5	4.7	7	5.0	5
Pecos WA	WHPE1	NM	15.2	3	12.8	3	4.3	5	3.5	7
Wheeler Peak WA	WHPE1	NM	15.2	3	12.8	3	4.3	5	3.5	7
Badlands NP	BADL1	SD	2.6	11	1.8	11	2.8	9	2.3	9
Wind Cave NP	WICA1	SD	2.7	10	2.4	10	4.8	8	3.9	9
Arches NP	CANY1	UT	4.6	4	4.1	4	6.9	5	6.9	6
Canyonlands NP	CANY1	UT	4.6	4	4.1	4	6.9	5	6.9	6
Bridger	BRID1	WY	0.3	13	0.2	15	0.6	15	0.0	16

Class I Area	IMPROVE Site	State	Sulfate Impact							
			Best Days				Worst Days			
			2002		2018		2002		2018	
			Impact %	Rank	Impact %	Rank	Impact %	Rank	Impact %	Rank
Grand Canyon NP	HANC1	AZ	0.5	16	1.5	9	0.9	15	0.6	16
Petrified Forest NP	PEFO1	AZ	0.4	18	0.2	20	1.3	12	1.0	13
Sycamore Canyon	SYCA1	AZ	0.3	17	0.0	20	0.8	14	0.5	16
Bosque del Apache WA	BOAP1	NM	1.7	12	1.2	13	1.6	9	1.4	12
San Pedro Parks	SAPE1	NM	4.2	5	3.3	5	1.4	14	1.1	15
Bandelier NM	BAND1	NM	3.2	8	2.8	7	1.4	12	1.1	13
Pecos WA	WHPE1	NM	10.9	2	8.5	2	3.1	8	2.4	9
Wheeler Peak WA	WHPE1	NM	10.9	2	8.5	2	3.1	8	2.4	9
Badlands NP	BADL1	SD	0.8	14	1.4	12	1.8	11	1.8	11
Wind Cave NP	WICA1	SD	1.9	11	1.0	13	3.2	7	2.9	7
Arches NP	CANY1	UT	1.9	11	1.2	12	3.3	9	2.2	10
Canyonlands NP	CANY1	UT	1.9	11	1.2	12	3.3	9	2.2	10
Bridger	BRID1	WY	0.0	17	0.0	17	0.7	20	0.5	20

**File Code:** 2580

**Date:** October 4, 2006

Margie Perkins  
Director Air Pollution Control Division  
Colorado Department of Public Health and Environment  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530

Dear Ms. Perkins

Over the past several years, our staff has participated with members of your staff and those of neighboring states and tribes in the Western Regional Air Partnership planning organization (WRAP), developing best approaches and tools for preparing the plans that will reduce haze in Class I areas. Now that preparation of your Regional Haze State Implementation Plan (SIP) is at hand, we want to work with you and your staff to help ensure that your SIP is successful. As you know, our consultation with you is required in the Regional Haze Rule (RHR). This is my number one priority for our air program.

Our focus will be on Class I wildernesses for which the USDA Forest Service is responsible. We also have a coordination link with the other Class I area managers, the National Park Service and the US Fish & Wildlife Service, to facilitate to the extent possible a common message from the federal land managers (FLMs). We should be able to leverage the strengths from each of the FLMs. Since the FLMs will be seeking a close working relationship with every state in this SIP-writing process, we expect to be able to share with you ideas from across the nation. As the manager of eighty-eight Class I areas, we believe each state contributes to a national fabric of emission reduction plan(s). Such planning is instrumental in attaining the natural background objective. Each and every SIP plays a critical role.

In the attachment, I have provided some detailed perspectives pertinent to SIP preparation. Any comments or questions about these perspectives should be directed to Bud Rolofson, at (303-275-5752 [brolofson@fs.fed.us](mailto:brolofson@fs.fed.us)), your principle Forest Service point of contact in this process. Bud will provide the required Forest Service consultation on your SIP now, and through the required 60-day comment period. Working with others on our staff, especially our National Haze Coordinator, Ann Mebane (307-587-4597, [amebane@fs.fed.us](mailto:amebane@fs.fed.us)), and with the Department of the Interior, he will provide you with our recommendations.

Please identify the key point(s) of contact on your staff with whom Bud may work on the SIP. Send all correspondence to both Bud Rolofson and Ann Mebane. We would prefer this electronically to the extent possible.

I look forward to a fruitful consultation and a successful Regional Haze SIP.

Sincerely,

*/s/ Richard Stem (for)*  
RICK D. CABLES  
Regional Forester

cc: Mark Boche, Bud Rolofson, Jeff A Sorkin

## **Attachment**

Subject: Regional Haze Rule Consultation with the USDA Forest Service, July 2006

*The following perspectives are merely suggestions or recommendations not direction or requirements. They are deliberately very similar to those prepared by the Department of Interior to contribute to a common sense of purpose for improving haze in all Class I areas. We are sending these perspectives to each state. In so doing, we hope to facilitate inter-state coordination. At the same time, we fully acknowledge the discretion afforded in the RHR for unique and creative solutions by individual states in writing plans that reduce haze.*

### **Natural Condition, and Uniform Rate**

These factors apply mainly to States that have Class I areas. Other States that contribute to visibility impairment in Class I areas, located in a different state might consider including discussion and conclusions on these factors in their individual plans.

The basic calculation of baseline, natural condition, and uniform rate builds the foundation for the entire RHR SIP process. Considerable discussion and debate at the science and policy level has occurred regarding appropriate methods to be used. Consequently, several equations that include varying parameters or multipliers are available. Because these calculations can have a significant effect on the resulting progress goal, it is important to provide a detailed description of the methods used in the SIP. Calculations that include only portions of established methods or utilize unique approaches will be better understood if the rationale for these differences is fully explained in the SIP or its supporting documentation. We encourage states to use calculations that are based on equations recommended by the IMPROVE steering committee and that are consistent with recommended approaches from the pertinent RPO and the Environmental Protection Agency (EPA) region.

### **Emission Inventories**

Given the complexities associated with modern comprehensive emission inventories, spending some considerable effort in describing how these inventories were developed and used will be important. Emission descriptions will be most informative if they include an evolutionary discussion that includes; an actual, base-year inventory used to evaluate model performance; a typical, base-year inventory that represents the five year, average state which establishes modeled visibility impacts; and various future year, controlled inventories that demonstrate future visibility conditions. Consider adding future year inventories that are clearly partitioned to delineate source types (by text, charts, or graphics) that are included in each model simulation. Benefits to future visibility conditions suggested in the SIP that are not also clearly linked to a future inventory or are not clearly included in future model analysis, will warrant additional discussion.

One part of your emission inventory includes the implementation of “Best Available Retrofit Technology” (BART) on a subset of pre-Prevention of Significant Deterioration sources. BART source identification, elimination, and level determination will be of particular interest for review. We would prefer to see a clear progression through the three basic BART phases and a thorough description of the RHR prescribed factor analysis (if applicable). Consider discussing whether BART levels apply to individual or grouped source categories.

### **Area of Influence**

The area of influence of significant visibility-impairing sources is an important SIP element. We suggest that each state clearly identify and apportion by State, or other geographic means, the significant levels of pollutants contributed to each Class I area by source. Developing this information together with neighboring States and Tribes will facilitate consistency. Discussions of changing source area contributions at both the base- and future-year levels will help demonstrate SIP progress. Consider the benefits of presenting this information in the form of transported mass by pollutant or through individually calculated visibility impairment measures. Using a percentage or “Top 10” ranking for current contributions by geographic area may or may not clearly describe progress over time.

### **Reasonable Progress Goals and Long Term Strategy**

Establishing reasonable progress goals for Class I areas in your State and/or acknowledging reasonable progress goals for Class I areas in other States that are affected by emissions from your State, as well as defining associated emissions strategies to meet these goals, form the basis of the SIP process under the RHR.

In developing the statute’s required Long Term Strategy (LTS), your State is offered broad flexibility when determining reasonable progress goals and associated emissions. As noted earlier, the RHR includes a requirement for States to assess a uniform rate of progress and compare that rate to the reasonable progress goals set by those states with Class I areas. We feel that this uniform rate of progress assessment is useful in determining the geographic and economic extent a State can consider when developing the LTS associated with the reasonable progress goals.

In general, we will be looking at the degree to which the LTS is supported by RPO technical work and at the level of consistency among the contributing States. For Class I areas where your State is setting a 2018 reasonable progress goal of equal or less impairment compared to the uniform rate of progress, our review will focus holistically on (1) whether strategies are applied equitably across source types, (2) if both local and regional emission strategies have been fully examined, and (3) how consistent assessments and strategies are applied regionally.

For Class I areas where the reasonable progress goal is more impaired than the uniform rate of progress, consider presenting information on a component basis. Components could consist of emission source category as before, but also include contributions from individual pollutants or by geographic source area. Our intent is to better understand where and why a strategy falls short of the uniform progress rate goal. Because each region has focused their emission control strategy on different conditions, presenting results in a component format may assist in showing what level of progress was made in the focus area, versus other less controllable factors.

## **Wildland Fire**

Your state has considerable flexibility as it addresses all anthropogenic sources of visibility impairment, including fire. The RHR requires consideration of smoke management techniques for agricultural and forestry management practices in the development of the LTS part of the SIP. On a short-term basis, fire, both natural and anthropogenic, has the potential to cause significant visibility reduction in Class I areas. If anthropogenic fire contributes to the index used to track long-term, reasonable progress in a Class I area, the visibility SIP should identify how it will be addressed. Your state may already have a smoke management program (SMP) that adequately describes how visibility impairment from fire will be addressed. If fire has been determined to contribute to visibility impairment, we suggest including a fire emissions inventory along with a comment about its reliability and a projection for changes to the future inventory. If your state has a SMP, is it a basic smoke management program or an enhanced smoke management plan? And has the SMP been certified by EPA's Interim Air Quality Policy on Wildland and Prescribed Fire? Identify the specific SMP requirements for minimizing visibility impairment in Class I areas and classify the various types of wildland fire (wildfire, prescribed fire, and wildland fire use fire) as either natural or anthropogenic. Are there differences in state regulation for the way in which smoke from agricultural burning and forest fires are treated? Is there a difference in the way emissions from wildfire, prescribed fire and wildland-fire-use (WFU) fire are identified and treated on private, state and federal lands?

## **Regional Consistency**

The RPOs have been working toward regionally consistent approaches to address visibility impairment throughout the SIP development process. There may be circumstances when different methods were used or impairment assessments reached different conclusions. The FLMs understand that each State knows what emission control methods or air quality management strategies work best for its areas. Each State may wish to develop strategies that are independent from RPO or neighboring areas.

In this context, our review of "regional consistency" will have less to do with individual discretion each State has in making decisions, and more on how well a group of States identifies and addresses similar, agreed upon goals for each Class I area within a common area of influence.

Regional consistency can also be difficult to evaluate if neighboring SIPs (or portions of SIPs) are released for review at different times. We expect that thorough inter-State consultation processes will lead to consistent descriptions of apportionment and emission control goals, thus resulting in development of similar progress goals, regardless of release dates.

## **Verification and Contingencies**

Little emphasis has been placed in the RHR on verification and even less on contingency planning. By rule, each SIP must identify the monitoring data used to specify the original baseline and also as part of an ongoing progress review at five-year intervals. Given the uncertain future of any individual monitoring site, we suggest that the SIP address the representativeness of both primary and alternative data sites for each class I area.

Consider not only the data necessary to measure progress but also how to account for and mitigate both unexpected and reasonably foreseeable emissions growth, changes to the geographic distribution of emissions, and substantive errors that may be found in emission inventories or other technical bases of the SIPs. These factors, as well as other unanticipated circumstances, may adversely affect your state's ability to achieve the emissions reductions projected by the SIP. Considering these factors through adaptive management or continual review strategies may assist in avoiding these circumstances.

### **Coordination and Consultation**

The 1999 Regional Haze Rule requires States to consult with the Federal Land Management (FLM) agencies at least 60 days prior to holding any public hearing on a RHR SIP or SIP revision (40 CFR 51.308(i)). The federal land managers for each of the 88 Forest Service Class I areas are listed in attachment 2. As named in the cover letter to this attachment, a single Forest Service air specialist has been assigned to your state. He or she will facilitate the coordination of comments from multiple Forest Service FLMs if they exist in your state.