

# WYOMING STATE IMPLEMENTATION PLAN

## Regional Haze

Addressing Regional Haze Visibility Protection For The Mandatory  
Federal Class I Areas Required Under 40 CFR 51.309



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# STATE IMPLEMENTATION PLAN REQUIREMENTS

## Section A. Projection of Visibility Improvement

### 1. Projection of Visibility Improvement Anticipated From Long-Term Strategy

(a) *Applicable Class I areas.* This projection of visibility improvement covers the 16 Class I areas of the Colorado Plateau, as defined in 40 CFR 51.309(b)(1).

(b) *Projected visibility improvement.* Pursuant to 40 CFR 51.309(d)(2), Table 1 below compares the monitored 2000-04 baseline visibility conditions in deciviews for the 20% Best and 20% Worst days to the projected visibility improvement resulting from the 2018 Base Case (Base 18b) and 2018 Preliminary Reasonable Progress (PRP18) modeling scenarios completed to date. These 2018 modeling scenarios are defined as follows:

- Base Case (Base 18b) = growth plus all controls “on the books” as of December 2004, no BART or SO<sub>2</sub> milestones assumptions;
- Preliminary Reasonable Progress Case (PRP18) = refined growth estimates plus all controls “on the books” as of May 2007, includes presumptive limit or known SO<sub>2</sub> BART on EGUs; and
- [future] Final Reasonable Progress Case (FRP18) = all controls “on the books” as of 2007, will include all BART controls in the WRAP region and limits defined in the SO<sub>2</sub> milestone “better-than-BART” program.

When SO<sub>2</sub> and NO<sub>x</sub> controls for all BART sources have been adopted in the WRAP region, and the 309 states re-adopt the SO<sub>2</sub> milestone program, a 2018 Final Reasonable Progress (FRP18) modeling scenario will then be analyzed and the remaining cells completed in the table below. The data in the table below satisfy 40 CFR 51.309(d)(2) of the Regional Haze Rule.

All 16 Colorado Plateau Class I areas show a projected visibility improvement for 2018 using the monthly averages on the 20% Worst average visibility days, and no degradation on the 20% Best average visibility days for each monitoring site. The monthly average method for projecting visibility improvement is an allowed variation of EPA guidance, and the method description is found at: [http://www.wrapair.org/forums/taf/meetings/070226c/Applying\\_Monitoring\\_Metrics\\_for\\_Regional\\_Haze\\_Planning\\_%20February\\_23\\_2007\\_finalreviewdraft.pdf](http://www.wrapair.org/forums/taf/meetings/070226c/Applying_Monitoring_Metrics_for_Regional_Haze_Planning_%20February_23_2007_finalreviewdraft.pdf). The monthly averaging method was chosen because it was the shortest averaging period for making the future visibility projections, while avoiding the use of the EPA specific days method that only assesses improvements on the Worst and Best days observed during one year (2002) of the 2000-04 baseline monitoring period. The methodology and current data showing projected visibility improvement in 2018 are now available through the WRAP TSS (<http://vista.cira.colostate.edu/tss>).

		Table 1. Visibility Impairment in Deciview* 20% Worst Visibility Days							
		Projected Visibility (Monthly Average Method)				Projected Visibility (Monthly Average Method)			
Colorado Plateau Class I areas under §309(d)(2)	State	2000-04 Regional Haze Rule Baseline Monitoring Data	2018 Base Case (Base18b)	2018 Preliminary Reasonable Progress Case (PRP18)	2018 Final Reasonable Progress Case (FRP18)	2000-04 Regional Haze Rule Baseline Monitoring Data	2018 Base Case (Base18b)	2018 Preliminary Reasonable Progress Case (PRP18)	2018 Final Reasonable Progress Case (FRP18)
		Grand Canyon National Park	AZ	11.7	11.4	11.3		2.2	2.2
Mount Baldy Wilderness	AZ	11.9	11.5	11.4		3.0	2.9	2.8	
Petrified Forest National Park	AZ	13.2	12.9	12.9		5.0	4.9	4.8	
Sycamore Canyon Wilderness	AZ	15.3	15.1	15.1		5.6	5.6	5.6	
Black Canyon of the Gunnison National Park Wilderness	CO	10.3	10.1	9.9		3.1	2.9	2.9	
Flat Tops Wilderness	CO	9.6	9.2	9.0		0.7	0.6	0.5	
Maroon Bells Wilderness	CO	9.6	9.2	9.0		0.7	0.6	0.5	
Mesa Verde National Park	CO	13.0	12.8	12.6		4.3	4.1	4.0	
Weminuche Wilderness	CO	10.3	10.1	9.9		3.1	2.9	2.9	
West Elk Wilderness	CO	9.6	9.2	9.0		0.7	0.6	0.5	
San Pedro Parks Wilderness	NM	10.2	10.0	9.8		1.5	1.3	1.2	
Arches National Park	UT	11.2	11.0	10.9		3.8	3.6	3.5	
Bryce Canyon National Park	UT	11.6	11.3	11.2		2.8	2.7	2.6	
Canyonlands National Park	UT	11.2	11.0	10.9		3.8	3.6	3.5	
Capitol Reef National Park	UT	10.9	10.6	10.5		4.1	4.0	3.9	
Zion National Park	UT	13.2	13.0	13.0		5.0	4.7	4.7	

\* Data are from: <http://vista.cira.colostate.edu/TSS/Results/HazePlanning.aspx> --> Modeling --> Visibility Projections

## **2. Applicable WRAP Reports and Documents**

Appendix B is found in the WRAP TSD. The methodology and current data showing projected visibility improvement in 2018 are now available through the WRAP TSS (<http://vista.cira.colostate.edu/tss>).

## Section B. Clean Air Corridors

**Note: No revisions were made to this section.**

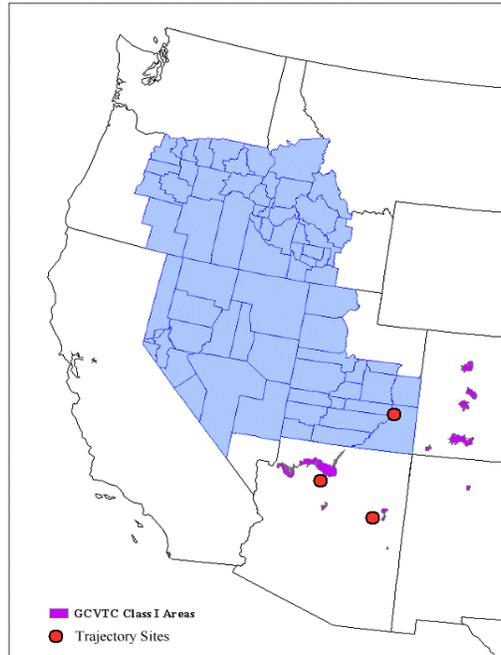
### 1. Long-Term Strategy for the Clean Air Corridor

See the Wyoming TSD for further details that summarize the *WRAP Policy Paper on Clean Air Corridors* and supports parts *b*, *c*, *d*, and *f* below.

*(a) Comprehensive emissions tracking program.* Pursuant to 40 CFR 51.309(d)(3), a comprehensive emissions tracking system has been established to track emissions within portions of Oregon, Idaho, Nevada and Utah, that have been identified as part of the Clean Air Corridor, as specified in *(b)* below, to ensure that visibility is not degraded on the least-impaired days in any of the 16 Class I areas of the Colorado Plateau. This comprehensive emissions tracking system was developed by the WRAP to assist the above states in meeting this requirement. The Wyoming TSD describes the comprehensive emissions tracking system, and the process by which the WRAP will summarize annual emission trends in order to identify any significant emissions growth that could lead to visibility degradation in the 16 Class I areas. Included in this summary will be an assessment of whether any significant emissions growth has occurred within the Clean Air Corridor, in accordance with *(c)* below.

*(b) Identification of Clean Air Corridors.* Pursuant to 40 CFR 51.309(d)(3)(i), the State of Wyoming has identified a Clean Air Corridor, as indicated in the map provided below. This Clean Air Corridor was identified using studies conducted by the Meteorological Subcommittee of the Grand Canyon Visibility Transport Commission, and then updated by the WRAP based on an assessment described in the *WRAP Policy Paper on Clean Air Corridors*, and related technical analysis conducted by the WRAP.

**Figure 1. Map of the Clean Air Corridor in the Transport Region**



(c) *Patterns of growth within the Clean Air Corridor.* Pursuant to 40 CFR 51.309(d)(3)(ii), the State of Wyoming has determined, based on the *WRAP Policy Paper on Clean Air Corridors* and technical analysis conducted by the WRAP, that inside the Clean Air Corridor identified in (b) there is no significant emissions growth occurring at this time that is causing visibility impairment in the 16 Class I areas of the Colorado Plateau. Future emissions growth will be tracked in accordance with the comprehensive emissions tracking system in (a) above. The WRAP will summarize annual emission trends within the corridor and make an assessment of whether any significant emissions growth has occurred within the corridor.

(d) *Patterns of growth outside the Clean Air Corridor.* Pursuant to 40 CFR 51.309(d)(3)(iii), the State of Wyoming has determined, based on the *WRAP Policy Paper on Clean Air Corridors* and technical analysis conducted by the WRAP, that outside the Clean Air Corridor identified in (b) there is no emissions growth occurring at this time that is impairing air quality within the Clean Air Corridor sufficient to cause any visibility impairment in any of the 16 Class I areas of the Colorado Plateau. As part of the WRAP's annual summary of emission trends within the corridor, an assessment will be made of emission and monitoring data trends outside the Clean Air Corridor, in order to determine if significant emissions growth is occurring outside the corridor that could be impairing air quality within the corridor, and resulting in visibility impairment in the 16 Class I areas. See Chapter 3 of the WRAP Technical Support Document for additional details on this assessment process.

(e) *Actions if impairment inside or outside the Clean Air Corridor occurs.* The State of Wyoming, in coordination with other transport region states and tribes, will review the WRAP's annual summary of emission trends within the Clean Air Corridor and whether any significant

emissions growth was identified within the corridor in accordance with (c) above, or was identified outside the corridor, in accordance with (d) above. If significant emissions growth was identified, the State of Wyoming in coordination with other transport region states and tribes, will conduct or seek WRAP assistance in conducting an analysis of the effects of this emissions growth in terms of possible impact on air quality within the corridor and possible degradation of the least-impaired days in any of the 16 Class I areas of the Colorado Plateau. Pursuant to 40 CFR 51.309(d)(3)(iv), if this analysis finds that this growth is causing visibility impairment in the 16 Class I areas, the State of Wyoming in coordination with other transport states and tribes will evaluate the need for additional emission reduction measures, and identify an implementation schedule for such measures, if needed. The implementation of any additional emission measures shall be coordinated with all appropriate transport region states and tribes, on a mutually agreed upon timetable, and reported to EPA in accordance with the periodic progress reports required under 40 CFR 51.309(d)(10)(i).

(f) *Other Clean Air Corridors.* Pursuant to 40 CFR 51.309(d)(3)(v), the State of Wyoming has concluded that no other Clean Air Corridors can be identified at this time. This finding is based on the review of work conducted by the Meteorological Subcommittee of the Grand Canyon Visibility Transport Commission on Clean Air Corridors, as described in the *WRAP Policy Paper on Clean Air Corridors*. Although no formal update on this finding is required, the State of Wyoming recognizes that future modeling or monitoring data may indicate other possible Clean Air Corridors exist. The State of Wyoming will notify EPA if there is evidence to support such a finding in the future, and take appropriate action pursuant to this requirement.

## **2. Applicable WRAP Reports and Documents**

See Chapter 3 of the TSD Development Plan for the technical work conducted in support of the *WRAP Policy Paper on Clean Air Corridors*, summary provided in the Wyoming TSD.

## Section C. Stationary Sources

### 1. Long-Term Strategy for Stationary Sources

The definitions associated with this section are provided in Appendix A of this document. A demonstration of how the Backstop Trading Program is better than applying BART to stationary sources is included in Appendix E of this document.

#### Part A—Milestones and Determination of Program Trigger

##### A1 Regional SO<sub>2</sub> Milestones

###### A1.1 Milestone Values

The regional sulfur dioxide milestones for the years 2003 through 2018 are provided in Table 1. The milestones shall be adjusted annually as described in paragraph A1.2 of this Stationary Sources section.

**Table 1. Sulfur Dioxide Emissions Milestones**

Column 1	Column 2	Column 3
For the year	the regional sulfur dioxide milestone is	and the annual SO <sub>2</sub> emissions for these years will determine whether emissions are greater than or less than the milestone
2008	269,083 tons SO <sub>2</sub>	Average of 2006, 2007 and 2008
2009	234,903 tons SO <sub>2</sub>	Average of 2007, 2008 and 2009
2010	200,722 tons SO <sub>2</sub>	Average of 2008, 2009 and 2010
2011	200,722 tons SO <sub>2</sub>	Average of 2009, 2010 and 2011
2012	200,722 tons SO <sub>2</sub>	Average of 2010, 2011 and 2012
2013	185,795 tons SO <sub>2</sub>	Average of 2011, 2012 and 2013
2014	170,868 tons SO <sub>2</sub>	Average of 2012, 2013 and 2014
2015	155,940 tons SO <sub>2</sub>	Average of 2013, 2014 and 2015
2016	155,940 tons SO <sub>2</sub>	Average of 2014, 2015 and 2016
2017	155,940 tons SO <sub>2</sub>	Average of 2015, 2016 and 2017
2018	141,849 tons SO <sub>2</sub>	Year 2018 only
2019 forward, until replaced by an approved SIP	141,849 tons SO <sub>2</sub>	Annual; no multiyear averaging

###### A1.2 Milestone Adjustments

(a) All milestone adjustments shall require a SIP revision. Section A3.3 of this Plan outlines adjustments to be made to the emissions inventory to ensure a consistent comparison to the milestones. These adjustments shall be incorporated into the milestones every five years as part of the periodic Implementation Plan revisions required by 40 CFR 51.309(d)(10).

Adjustments to the milestones shall be tracked in the annual emissions report pursuant to Section A3.3.

(b) Within ninety days of the periodic Implementation Plan revision incorporating adjustments based on Section A3.3, the State of Wyoming shall provide the date of the SIP revision reflecting the milestone adjustment to sources whose records were used as the basis for the milestone adjustment and state that the source needs to retain the record at least five years from the date of the SIP revision, or ten years from the date of establishing the record, whichever is longer.

(c) Opt-in Provisions for States and Tribes. The regional milestones in Table 1 were developed for a 3-state region: New Mexico, Utah, and Wyoming. Other western states and tribes may choose to join this backstop trading program in the future. The addition of a state or tribe to the program will require SIP/TIP revision for all participating states and tribes to adjust the regional milestones, and will not occur automatically. Any state or tribe that wishes to opt in to the program will propose milestone adjustments to the participating states and tribes using the same methodology that was used to develop the milestones in Table 1. A new participant must agree to develop a SIP and backstop trading rule that is consistent with those adopted by the other participating states and tribes.

## **A2 Regional Program Administration**

### **A2.1 Pre-trigger Tracking of Regional SO<sub>2</sub> Emissions**

The Wyoming Department of Environmental Quality shall work cooperatively with the states and tribes that are participating in the SO<sub>2</sub> Milestones and Backstop Trading Program to ensure that an emission tracking system for the regional SO<sub>2</sub> inventory is developed and maintained. The Department is responsible for all regional program administration functions as described in this Plan. The Department will perform these functions through the WRAP, with the WRAP functioning as the Department's agent. The Western Regional Air Partnership (WRAP) compiled the SO<sub>2</sub> emission inventories that were used during the development of the Western Emissions Backstop Trading Program and subsequent SIP revisions, and the WRAP continues to refine and improve the overall tracking system for regional haze. The WRAP shall maintain the pre-trigger emissions tracking functions outlined in this Plan for the foreseeable future. If the WRAP is no longer able to fulfill this function, then the Department shall ensure that other arrangements are made, either through a different regional organization or through a contractor to maintain the SO<sub>2</sub> tracking system that is described in this Plan. The WRAP shall have no authority to make regulatory determinations. The WRAP has limited authority under this Plan to perform tracking and accounting functions, prepare reports, and perform other administrative functions as directed by the Department. The Department shall work expeditiously to correct any problems if the WRAP fails to perform any of the functions described in the SIP in a timely manner.

## A2.2 Designation of the Tracking System Administrator

If the backstop trading program is triggered due to an exceedance of the SO<sub>2</sub> milestones as outlined in Part A3 of this section, the Department shall work cooperatively with the other participating states and tribes to designate one Tracking System Administrator (TSA). The TSA shall be designated as expeditiously as possible, but no later than six months after the program trigger date. In addition, before the TSA is designated, the Department shall have entered into a binding contract with the TSA that shall require the TSA to perform all TSA functions described in this Plan. In addition, the State of Wyoming must obtain sufficient authority to ensure the functions in the Implementation Plan are carried out by the TSA.

## A2.3 Information Provided by Other States and Tribes

The Department shall accept the emission inventory and permitting information provided by the other participating states and tribes in order to determine the milestone value and program trigger if such other states and tribes have provided proper documentation and followed the public notification process outlined in Parts A3.6 through A3.8 of this section.

## A3 Determination of Program Trigger

A3.1 Until the program has been triggered and source compliance is required, the Department shall submit an annual emissions report for Wyoming sources to the WRAP and all participating states and tribes by September 30 of each year. The report shall document actual sulfur dioxide emissions during the previous calendar year for all sources subject to the sulfur dioxide milestone inventory requirement of Chapter 14, Section 3. The first report for calendar year 2003 shall be submitted by September 30, 2004. The Department shall prepare the supporting documentation that is included with the annual emissions report as noted in provisions A3.2 and A3.3 below.

A3.2 The annual emissions report for Wyoming shall include a source emissions change report that contains the following information:

- (a) identification of any new sources that were not contained in the previous calendar year's emissions report, and an explanation of why the source is now included in the program;
- (b) identification of any sources that were included in the previous year's report and are no longer included in the program, and an explanation of why this change has occurred; and
- (c) an explanation for emissions variations at any applicable source that exceeds +/- 20 percent from the previous year.

A3.3 The annual emissions report for Wyoming shall include a proposed emissions adjustment as described in (a) and (b) to ensure a consistent comparison to the milestones.

- (a) Changes in emission monitoring or calculation methods. Actual emission inventories for sources that change the method of monitoring or calculating their emissions shall be adjusted

to be comparable to the emission monitoring or calculation method that was used in the 2006 base year inventory.

(b) Changes due to enforcement actions.

1. Adjustments due to enforcement actions arising from settlements. Adjustments to the milestones shall be made, as specified in Part A3.3(b)3 and 4 of this section, if:

(A) an agreement to settle an action, arising from allegations of a failure of an owner or operator of an emissions unit at a source in the program to comply with applicable regulations which were in effect during the base year, is reached between the parties to the action;

(B) the alleged failure to comply with applicable regulations affects the assumptions that were used in calculating the source's base year and forecasted sulfur dioxide emissions; and

(C) the settlement includes or recommends an adjustment to the milestones.

2. Adjustments due to enforcement actions arising from administrative or judicial orders. Adjustments shall be made to the milestones as directed by any final administrative or judicial order, as specified in Part A3.3(c)3 and 4 of this section. Where the final administrative or judicial order does not include a reforecast of the source's baseline, the state or tribe shall evaluate whether a reforecast of the source's baseline emissions is appropriate.

3. Adjustments method and effective dates. Based on Part A3.3(c)3 and 4 of this section, the milestone must be decreased by an appropriate amount based on a reforecast of the source's decreased sulfur dioxide emissions. The adjustments to the milestone do not become effective until after the source has reduced its sulfur dioxide emissions as required in the settlement agreement, or administrative or judicial order. All adjustments based upon enforcement actions must be made in the form of an implementation plan revision that complies with the procedural requirements of 40 CFR 51.102 and 51.103.

4. Documentation of adjustments for enforcement actions. In the periodic plan revision required under 40 CFR 51.309(d)(10), the state or tribe shall include the following documentation of any adjustment due to an enforcement action:

(A) identification of each source under the state or tribe's jurisdiction which has reduced sulfur dioxide emissions pursuant to a settlement agreement, or an administrative or judicial order;

(B) for each source identified, a statement indicating whether the milestones were adjusted in response to the enforcement action;

(C) discussion of the rationale for the state or tribe's decision to adjust or not to adjust the milestones; and

(D) if SO<sub>2</sub> emissions reductions over and above those reductions needed for compliance with the applicable regulations were part of an agreement to settle an action, a statement indicating whether such reductions resulted in any adjustment to the milestones or allowance allocations, and a discussion of the rationale for the state or tribe's decision on any such adjustment.

A3.4 The annual sulfur dioxide milestone and emissions report for Wyoming shall document any adjustments that should be made to the milestone for the previous year as described below:

(a) The Department will document the submittal date of this Implementation Plan to implement the regional Sulfur Dioxide Milestones and Backstop Trading Program, and the approval date by the EPA Administrator, if applicable.

(b) Changes due to enforcement actions.

1. *Adjustments due to settlements arising from enforcement actions.* Adjustments to the milestones will be made, as specified in subsection (3.) below, if:

(i) an agreement to settle an action, arising from allegations of a failure of an owner or operator of an emissions unit at a source in the program to comply with applicable regulations which were in effect during the base year, is reached between the parties to the action;

(ii) the alleged failure to comply with applicable regulations affects the assumptions that were used in calculating the source's base year and forecasted sulfur dioxide emissions; and

(iii) the settlement includes or recommends an adjustment to the milestones.

2. *Adjustments due to administrative or judicial orders.* Adjustments to the milestones will be made as directed by any final administrative or judicial order, as specified in (3.) below. Where the final administrative or judicial order does not include a reforecast of the source's baseline, the Department will evaluate whether a reforecast of the source's baseline emissions is appropriate.

3. *Adjustments method and effective dates.* The milestone will be decreased by an appropriate amount based on a reforecast of the source's decreased sulfur dioxide emissions. The adjustments will not be made to the milestone until after the source has reduced its sulfur dioxide emissions as required in the settlement agreement, or administrative or judicial order.

4. *Documentation of adjustments for enforcement actions.* The report will include the following documentation of any adjustment due to an enforcement action or a settlement agreement:

- (i) identification of each source in Wyoming that has reduced sulfur dioxide emissions pursuant to a settlement agreement or an administrative or judicial order;
- (ii) for each source identified, a statement indicating whether the milestones were adjusted in response to the enforcement action;
- (iii) discussion of the rationale for the Department's decision to adjust or not to adjust the milestones; and
- (iv) if SO<sub>2</sub> emissions reductions over and above those reductions needed for compliance with the applicable regulations were part of an agreement to settle an action, a statement indicating whether such reductions resulted in any adjustment to the milestones or allowance allocations, and a discussion of the rationale for the Department's decision on any such adjustment.

5. The State of Wyoming will include all accumulated milestone adjustments due to enforcement actions or settlement agreements in the periodic SIP revisions required under 40 CFR 51.309(d)(10).

### A3.5 Compilation of Reports

(a) The WRAP shall compile the annual emissions reports submitted by all participating states and tribes into a draft regional emission report for sulfur dioxide. The WRAP shall follow additional quality assurance procedures developed by states and tribes to identify possible errors in the emissions data, including screening for missing or added sources, name changes, and significant changes in reported emissions. Any questions or anomalies regarding Wyoming's report shall be referred back to the Department for resolution prior to the submission of the draft regional emission report.

(b) By December 31 of each year, the WRAP shall submit the draft regional emission and milestone report to the Department and shall post the draft report on the WRAP website for public review. The report shall include the following information:

1. Actual regional sulfur dioxide emissions (tons/year).
2. Adjustments to account for:
  - (i) changes in emission monitoring or calculation methods, or
  - (ii) enforcement actions or settlement agreements as a result of enforcement actions.
3. Average adjusted emissions for the last three years (if applicable) for comparison to the regional milestone.

A3.6 The Department shall evaluate the draft regional emissions report and shall propose a draft determination that the sulfur dioxide milestone has either been met in the region, or has been exceeded. In the event that the WRAP has not submitted to the Department a draft regional emissions and milestone report by the December 31 deadline for any year, the Department shall prepare its own report for that year based upon the annual emissions reports submitted by all participating states and tribes pursuant to Part A3.5 of this section for that year. The Department shall modify the data in these annual emissions reports, or use data where such report(s) have not been submitted, based upon direction received from the Environmental Protection Agency.

A3.7 The Department will publish a notice of the final determination in newspapers of general circulation throughout the State of Wyoming. This notice will include the milestone and the final annual regional sulfur dioxide emissions for that year. If the milestone has been exceeded, the notice will specify the program trigger date and the first year that WEB sources must be in compliance with the WEB Trading Program provisions as outlined in Chapter 14, Section 2. The Department shall submit the draft determination to EPA for review and comment.

A3.8 The Department shall review any comments received during the comment period, and shall submit a copy of all comments to the WRAP and to all participating states and tribes along with a response to address the comments.

A3.9 The WRAP shall compile the comments and responses from all participating states and tribes and prepare a draft final regional emissions report. The report shall be submitted to the states and tribes that are participating in the program and, if necessary, the report shall propose a common program trigger date.

A3.10 The Department shall review and approve the final regional emissions report. The Department shall then submit this report to the Environmental Protection Agency along with a final determination that the milestone has either been met in the region, or that the milestone has been exceeded and the WEB Trading Program has been triggered in Wyoming. This final determination shall be submitted to the Environmental Protection Agency by the end of March fifteen months following the milestone year. The first final determination shall be due March 31, 2005 for the 2003 milestone. If the milestone has been exceeded, the common trigger date proposed in the regional report shall become the program trigger date for purposes of implementing the WEB Trading Program. In the event that the program trigger date must be established by the Department in the absence of a regional emissions and milestone report prepared by the WRAP, the date shall be March 31 of the applicable year.

A3.11 The Department shall notify the public of the final determination. This notice shall include the final calculation of the milestone and the final annual regional emissions. If the milestone has been exceeded, the notice shall include the program trigger date and the first year that WEB sources must be in compliance with the WEB Trading Program provisions outlined in Section 2(c)(ii) of Chapter 14. Wyoming will publish the final annual emissions report in a statewide newspaper's legal section.

## **A4 Year 2013 Assessment**

### **A4.1 Initial Assessment in 2013 Periodic SIP/TIP Review**

(a) The Department shall work cooperatively with the WRAP and other participating states and tribes to develop a projected emission inventory for SO<sub>2</sub> through the year 2018, using the 2010 regional inventory as a baseline. This projected inventory shall be included in the 2010 annual emission and milestone report that shall be completed in March 2012 as outlined in Part A3 of this section.

(b) The Department shall evaluate the projected inventory, and based upon this information make an assessment of the likelihood of meeting the regional milestone for the year 2018. The Department shall include this assessment as part of Wyoming's progress report that must be submitted by December 31, 2013, as required by 40 CFR 51.309(d)(10).

### **A4.2 Regional Emissions Report for 2012**

(a) The Department shall prepare an SO<sub>2</sub> emission report for the year 2012 by September 30, 2013 as described in Part A3.1 of this section. The Department shall include a list of all known projects in Wyoming that are anticipated to affect SO<sub>2</sub> emissions in 2018. This may include permitted projects, projects that are still in the planning stage, or projections from the affected sources of anticipated emissions in 2018. The status of these projects shall be described to provide a better understanding of the degree of certainty that individual projects will be completed by 2018.

(b) The WRAP shall compile the information from all participating states and tribes, prepare draft SO<sub>2</sub> inventory projections for the year 2018, and estimate the effect of known future projects on SO<sub>2</sub> emissions. Projected 2018 emissions will be compared to the 2018 milestone. This information shall be included in the draft regional emissions report that shall be submitted to the Department by December 31, 2013, as part of the report for the year 2012, as outlined in Part A3.5 of this section.

### **A4.3 Consensus Decision**

The Department commits to meet with the participating states and tribes in March 2014 to discuss any comments received on the 2018 emission projections in the draft report. The participating states and tribes shall decide, through a consensus process, whether an early trigger of the WEB Trading Program is necessary to meet the SO<sub>2</sub> emission reduction goals in 2018.

### **A4.4 Official Trigger**

If the participating states and tribes unanimously decide under Part A4.3 of this section that an early trigger of the backstop trading program is necessary, the Department shall trigger the WEB Trading Program and the timing of various program elements shall be adjusted as follows to ensure that the WEB Trading Program is in place in 2018. The date of the consensus decision by

the participating states and tribes to voluntarily trigger the WEB trading program shall become the program trigger date.

(a) Allowances for 2018 shall be distributed to WEB sources by January 1, 2015.

(b) The first control period shall be the year 2018. WEB sources will need to demonstrate at the end of the first control period that they have enough allowances to cover their SO<sub>2</sub> emissions in 2018.

#### A4.5 Public Notification

The Department shall notify the public of the decision. The Department will publish notice of the decision in newspapers of general circulation throughout Wyoming. If applicable, the notice will include a statement that the WEB Trading Program is in effect and will specify the program trigger date.

### **A5 Special Penalty Provisions for the 2018 Milestone**

If the WEB Trading Program is triggered as outlined in Part A.3 of Section C of this Implementation Plan, and the first control period will not occur until after the year 2018, a special penalty shall be assessed for the exceedance of the 2018 milestone.

Details on the penalty provisions for violation of the 2018 milestone can be found in Section 2(l) of Chapter 14. In general, the penalty involves an assessment of the minimum \$5,000 per ton of SO<sub>2</sub> emissions in excess of the WEB source's allowance limitation. The source can resolve its excess emissions violation by agreeing to a streamline settlement approach outlined in Section 2(l)(i)(E)(I) of Chapter 14.

The amount of the minimum monetary penalty in Section 2(l) of Chapter 14 shall be evaluated at each five-year SIP review, and adjusted to ensure that penalties per ton substantially exceeds the expected cost of allowances to ensure that this remains a stringent penalty.

The 2018 special penalty provisions shall continue to be applied each year after 2018 until the 2018 milestone has been achieved.

## **Part B—Pre-Trigger Emissions Tracking Requirements**

### **B1 SO<sub>2</sub> Emission Inventory**

WDEQ is in the process of developing Chapter 14, Section 3 to satisfy the SO<sub>2</sub> emission inventory requirements described below. That rule will be processed parallel with this SIP.

(a) Applicability. To insure compliance with the emission inventory requirements for pre-trigger tracking compliance with the sulfur dioxide milestones set forth under 40 CFR 51.309, the following changes will be incorporated into Chapter 14, Section 3. All stationary sources with actual emissions of one hundred (100) tons per year or more of sulfur dioxide in

the year 2000, or in any subsequent year, must submit an annual inventory of sulfur dioxide emissions, beginning with the 2003 emission inventory. A source that meets these criteria that then emits less than 100 tons per year in a later year must still submit a sulfur dioxide inventory for tracking compliance with the regional sulfur dioxide milestones until the WEB Trading Program has been fully implemented and emission tracking has occurred under Section 2(h) of Chapter 14.

(b) All stationary sources will be required to comply with the following federally enforceable provisions:

- (1) submit an annual inventory of SO<sub>2</sub> emissions;
- (2) document the emissions monitoring/estimation methodology used, and demonstrate that the selected methodology is acceptable under the inventory program;
- (3) include emissions from startup, shut down, and upset conditions in the annual total inventory;
- (4) use 40 CFR part 75 methodology for reporting emissions for all sources subject to the federal acid rain program;
- (5) smelters must submit an annual report of sulfur input, in tons/year;
- (6) maintain all records used in the calculation of the emissions, including but not limited to the following:
  - (i) amount of fuel consumed,
  - (ii) percent sulfur content of fuel and how the content was determined,
  - (iii) quantity of product produced,
  - (iv) emissions monitoring data,
  - (v) operating data, and
  - (vi) how the emissions are calculated;
- (7) maintain records of any physical changes to facility operations or equipment, or any other changes (e.g., raw material or feed) that may affect the emissions projections, and retain records for a minimum of ten years from the date of establishment, or if the record was the basis for an adjustment to the milestone, 5 years after the date of an implementation plan revision, whichever is longer.
- (8) retain records for a minimum of ten years from the date of establishment, or if the record was the basis for an adjustment to the milestone, 5 years after the date of an implementation plan revision, whichever is longer.

(c) The State of Wyoming shall retain 2006 emission inventory records for non-utilities until the year 2018 to ensure that changes in emissions monitoring techniques can be tracked.

## **B2 Development of Emission Tracking System**

The Department shall work cooperatively with the states and tribes that are participating in the WEB Trading Program to ensure that an emission tracking system for the regional SO<sub>2</sub> inventory is developed and maintained.

## **B3 Periodic Audit of Pre-Trigger Emission Tracking Database**

During the pre-trigger phase when the Department is tracking compliance with the regional SO<sub>2</sub> milestones, the Department shall work cooperatively with the participating states and tribes to ensure that an independent audit of the tracking database is conducted to ensure that the WRAP is accurately compiling the regional emissions report. The first audit shall occur during the year 2006 and shall review data collected during the first two years of the program. Subsequent audits shall occur in 2011 (which shall cover emissions years 2005-2009) and 2016 (which shall cover emissions years 2010-2014).

The primary focus of the audit will be the process that is used to compile the regional inventory from the data provided by each state and tribe, and the tracking of accumulated changes during the period between SIP revisions. The audit shall also review the accuracy and integrity of the regional reports that are used by the Department to determine compliance with the milestones.

The audit is not intended to be a full review of the Department's process for compiling and reporting SO<sub>2</sub> emissions, but shall include a broad review of the Department inventory management and quality assurance systems (i.e., presence and exercise of systems to assure data quality and integrity).

The audit shall discuss the uncertainty of emissions calculations, and whether this uncertainty is likely to affect the annual determination of whether the milestone is exceeded. The audit shall identify any recommended changes to emissions monitoring or calculation methods or data quality assurance systems. The audit shall also review and recommend any changes to improve the administrative process of collecting the annual emissions data at the state and tribal level, compiling a regional emission inventory, and making the annual determination of whether the WEB Trading Program has been triggered.

Changes to the WEB trading program, including any changes to the milestones, due to the results of these periodic audits shall be submitted to EPA as a SIP revision as part of the five-year SIP review required by 40 CFR 51.309(d)(10).

The Department shall provide an opportunity for public review and comment on the draft audit report following each Department procedure. The Department shall respond to comments and provide notice of the final availability of the report. The Department shall submit the final audit report to the EPA regional office.

## Part C—WEB Trading Program Requirements

### C1 Allowance Allocations

#### C1.1 Initial Allocation of SO<sub>2</sub> Allowances

(a) Draft Allocation Report. Within six months of the program trigger date, as outlined in Part A3.11 of this section, the Department will submit a draft allocation report to all participating states and tribes and to the TSA. This report will contain the following information:

1. A list of all WEB sources in Wyoming as defined in Chapter 14, Section 2 that groups the sources into two categories:

(i) Category 1: WEB sources that commenced operation prior to January 1, 2008. These sources will receive a floor allocation and will be eligible for the reducible portion of the allocation.

(ii) Category 2: WEB sources that commenced operation on January 1, 2008 or a later date. These sources will receive a floor allocation, but will not be eligible for the reducible allocation. The floor allocation for Category 2 sources will be deducted from the new source set-aside.

WEB sources that have received a retired source exemption under Chapter 14, Section 2(c)(iv) will be included in the allocation process in the same manner as WEB sources that are currently operating. However, sources that were permanently shut down prior to the program trigger date are not considered WEB sources under Chapter 14, Section 2(c)(i) and would therefore not be included in the allocation process.

2. The floor allocation for all WEB sources in Wyoming.

(i) For non-utility Category 1 WEB sources, the floor allocation shall be as established in the E.H. Pechan Report, “Market Trading Forum Non-Utility Sector Allocation Final Report from the Allocations Working Group” (November 2002). If any additional Category 1 sources are identified, the Department shall calculate a floor allocation using the methodology outlined in the E.H. Pechan Report.

(ii) For utility Category 1 WEB sources, the floor will be calculated by first assigning a “clean unit” emission rate to each unit. The clean unit emission rate will then be multiplied by an annual heat input (MMBtu) that represents a realistic upper bound for the unit.

Note: The floor level approach described above is designed to address equity issues regarding the allocation process for utilities. The State of Wyoming is participating in ongoing discussions with the other participating states, tribes and regional stakeholders to

ensure that all equity issues have been addressed. Wyoming will work with the other participating states and tribes to ensure that the floor allocation is calculated in a consistent manner for all participants. As outlined further in this allocation methodology, the floor for both utilities and non-utilities is limited by the utility/non-utility split in Table 2. The floor allocation methodology will ensure that credits are available for early reduction allocations. In addition, the regional number of allowances allocated for each year cannot exceed the milestone for that year under any circumstances.

### Principles

- Each unit will have enough allowances to operate as a clean source and at an operating rate (capacity factor) that is a realistic upper bound for the unit.
- There will not be significant winners and losers in this process.
- The focus is on a fair approach that is applied equally to all sources rather than on state and tribal budgets.
- The allocation process will use data that reflect current conditions, including current monitoring methodologies.

### Equity Issues

- Sources that are currently burning very low sulfur coal may see changes in their supply in the future. Historic actual emissions may not reflect future operations.
- Sources that are currently operating at a low utilization may not reach full capacity in the future. Assumptions about growth that are realistic on the regional level may provide a windfall to some sources, and not provide adequate allowances for other sources.
- There are some utility units in the region that are not BART-eligible and are operating at a low level of control for SO<sub>2</sub>. The relative responsibility of BART-eligible vs. non-BART-eligible is a consideration in the process.
- Sources that are operating at a high level of control are already bearing the cost of control and this affects their ability to compete in the market.
- Sources that have no SO<sub>2</sub> controls are facing a large expense that could affect their ability to continue to operate.
- Emission rate disparities exist throughout the region.

(iii) For Category 2 WEB sources the floor allocation shall be the lower of the permitted SO<sub>2</sub> annual emissions for the WEB source, or SO<sub>2</sub> annual

emissions calculated based on a level of control equivalent to BACT and assuming 100% utilization of the WEB source.

3. A list of certified early reductions, expressed as tons of SO<sub>2</sub>. Early reductions will be calculated and certified as follows:

(i) Any WEB source that installs control technology and accepts new permit emissions limits that are, for a non-utility source, below its floor as established in this section, or, for a utility source, below BACT, may apply for an early reduction credit as outlined in Chapter 14, Section 2(f)(v). The credit will be available for reductions that occur between 2008 and the program trigger year. The application must show that the floor was calculated in a manner that is consistent with the monitoring requirements of Chapter 14, Section 2(h)(i)(A) and (i)(C) and the new permit must contain monitoring requirements that are consistent with Chapter 14, Section 2(h). Emission units that are monitored using the less stringent monitoring requirements of Chapter 14, Section 2(h)(i)(B) are not eligible for early reduction credits. The credits accumulate from the time the new controls come on line until the program trigger date and will be allocated to the WEB source over a 10-year period. The use of early reduction credits in any control period is limited to no more than five percent, systemwide, of the existing available allowances, as provided in Part C1.1(b)5 of this section.

(ii) The Department will review the application and will certify early reductions for each full year between 2008 and the program trigger year that meet the requirements of Chapter 14, Section 2(f)(v) and this Plan.

(iii) A source's certified early reductions for all years will be added together to obtain the total certified early reductions for that source.

4. Historical SO<sub>2</sub> emissions data for all Category 1 sources for the purposes of calculating the reducible allocation.

(i) For utilities, the annual SO<sub>2</sub> emissions for the year 2006. Another time period may be used for individual emission units, if needed, to be representative of normal operating conditions.

(ii) For non-utilities, the annual SO<sub>2</sub> emissions for the year 2006.

5. Changes due to enforcement actions or settlement agreements as a result of enforcement actions. The adjustment shall be determined in accordance with Part A3.3(c) of this section. The difference between the WEB source's allocations prior to enforcement and after the enforcement action shall be removed from the allocation pool.

(b) Compiled Allocation Report

The TSA will compile the information provided by all participating states and tribes into a draft regional allocation report, and will submit this draft regional report to the Department and all participating states and tribes for review and comment thirty days after receiving the preliminary allocation reports. The draft regional allocation report will include a proposed budget for each state and tribe and the proposed allocation for each WEB source in Wyoming.

The State of Wyoming will work closely with the other participating states and tribes to ensure that the regional allocation is distributed consistently and fairly and to address any change in status that may affect this process.

The following methodology distributes the allowances available under the milestone in the following order: tribal set-aside, new source set-aside, floor, early reduction credit, reducible allocation. The allocation process is limited by the number of allowances available under the milestone. It is not possible under this methodology to distribute more allowances than are available under the milestone. Wyoming expects that there will be allowances available for all of the categories listed above. However, if at any time in the process there are not enough allowances available to fully cover a particular category, then the sources eligible for that category will receive a pro-rated allowance, and the process will stop. For example, if the early reduction credit allocation is greater than the remaining available allowances under the milestone, then each of the early reduction sources would receive a reduced early reduction credit allocation, and there would be no reducible allocation.

1. Table 2 shows the major categories that will be used to allocate allowances under the milestone. The methodology to calculate the available allocation for existing sources is described below. The milestone for the 3-state region is the starting point.

**Table 2. Utility/Non-utility Split.**

	Milestone from Table 1	Tribal Set-aside	New Source Set-aside	Remaining Allocation	Utility Portion	Non-utility Portion
2008	269,083	2,500	6,143	260,440	10,480	49,961
2009	234,903	2,500	6,143	226,260	176,299	49,961
2010	200,722	2,500	6,143	192,079	142,119	49,961
2011	200,722	2,500	6,143	192,079	142,119	49,961
2012	200,722	2,500	6,143	192,079	142,119	49,961
2013	185,795	2,500	12,286	171,009	121,048	49,961
2014	170,868	2,500	12,286	156,082	106,121	49,961
2015	155,940	2,500	12,286	141,154	91,194	49,961
2016	155,940	2,500	12,286	141,154	91,194	49,961
2017	155,940	2,500	12,286	141,154	91,194	49,961
2018	141,849	2,500	12,286	127,063	80,402	46,661

2. Subtract the floor allocation for all WEB sources in the region that were identified as Category 2 from the new source set-aside to determine the available allocation for new sources that begin operation after the program trigger date.

This allocation methodology treats all Category 2 sources as existing sources because these sources will be operating on the program trigger date. However, the allowances for all Category 2 sources are actually drawn from the new source set-aside. If new source growth exceeds the projections used to develop this Plan, it is possible that the above calculation will result in a negative number. Therefore, to address this problem, Category 2 sources will be ranked based on the date the permit is issued for each source. Sources will then be removed from the list of Category 2 sources, starting with the most recent permit, until the new source set-aside is no longer depleted. The last source on the list will receive a partial allocation. The sources that were removed from the list will be considered new sources as described in Section C1.3 of this Plan. These sources will need to purchase allowances to cover their emissions because the new source set-aside for sources that begin operation after the program trigger date will be calculated as zero until it is replenished in the next 5-year period. The allocation process for these new sources is described in Section C1.3 of this Plan.

**Example calculation of the new source set-aside.**

The example uses the following assumptions:

- (i) Emissions exceed the milestones based on an average of the years 2004-2006.
- (ii) The program trigger date is March 31, 2008.
- (iii) The first 5 years of the program are 2012-2016.
- (iv) New sources that commenced operation between January 1, 2008 and the program trigger date have a total floor allocation of 600.

	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
New Source Set-Aside	6,143	12,286	12,286	12,286	12,286
Floor for Category 2 Sources	600	600	600	600	600
Remaining New Source Set-aside	5,543	11,686	11,686	11,686	11,686

3. The remaining allocation shown in Table 2 is available for distribution to Category 1 sources. The final two columns in Table 2 split this remaining allocation into a utility allocation and a non-utility allocation.

4. Subtract the floor allocations for all Category 1 utility and non-utility sources in the region from the utility allocation or the non-utility allocation.

In the unlikely event that the total floor allocation for either utility or non-utility sources submitted by the participating states and tribes exceeds the total allocation available for that category, the TSA will notify the participating states and tribes of the discrepancy. Wyoming commits to work with the participating states and tribes through a consensus process to ensure that the floor allocation has been calculated in a consistent manner for all participants and to ensure that the floor allocation does not exceed the total allocation available for that category. The total number of allowances distributed cannot exceed the milestone for any given year.

5. Calculate the early reduction allocation.

(i) Divide the number of certified early reduction credits for all WEB sources in the region by ten.

(ii) Add the utility allocation for 2018 to the non-utility allocation for 2018 and then multiply this total by 0.05.

(iii) If the product of paragraph (i) is no more than the product of paragraph (ii), the product of paragraph (i) is the early reduction allocation, and each source is allocated ten percent of its early reduction credits.

(iv) If the product of paragraph (i) is more than the product of paragraph (ii), the early reduction allocation for the region is the product of paragraph (ii). To determine a source's allocation, divide the product of paragraph (ii) by 0.10 times the total number of early reduction credits and apply that ratio to the early reduction credits claimed by the source.

(v) Split the regional early reduction allocation based on the ratio of utility to non-utility allocations in 2018 and subtract the early reduction allocation from the utility and non-utility allocation totals.

(vi) The early reduction allocation will be calculated in a similar manner for the second five-year allocation period under this program, and will then be discontinued for any future allocation periods.

6. Any remaining allowances in the utility allocation or the non-utility allocation after subtraction of the early reduction allocation is considered the reducible allocation and will be assigned to Category 1 sources.

(i) For non-utility sources, add together the historic SO<sub>2</sub> emissions in accordance with Part C1.1(a)5 of this section for all Category 1 non-utility sources in the region to determine an historic emission total. Determine a percent contribution of SO<sub>2</sub> emissions for each WEB source to the historic

emission total. Multiply the non-utility reducible allocation calculated in paragraph (7.) by the percent contribution for each WEB source to determine a reducible allocation for each WEB source.

(ii) For utility sources, the reducible allocation will be distributed to sources that emitted above their floor in the baseline period (2006) based on their percentage of total floor emissions for sources emitting above the floor times the number of reducible allowances available for the first five years of the WEB Trading Program. The number of allowances for any source receiving a reducible allocation shall not exceed a recent historic emission rate times a heat input that represents a realistic upper bound for the unit.

Note: The approach for distributing the reducible utility allocation described above is designed to address equity issues regarding the allocation process for utilities. The State of Wyoming is participating in ongoing discussions with the other participating states, tribes and regional stakeholders to ensure that all equity issues have been addressed. The principles and equity issues that are under discussion are listed in Part C1.1(a)2 of this section.

7. Add together the floor allocation, early reduction allocation, and reducible allocation for each WEB source to determine the proposed allocations for the first five years of the WEB Trading Program.

8. Add together the proposed allocations for all of the WEB sources in the jurisdiction of each participating state and tribe to determine a draft SO<sub>2</sub> allowance budget for each state and tribe.

#### (c) Public Comment Period

The Department will publish notice of availability of the draft regional allocation report in newspapers of general circulation throughout Wyoming. A 30-day public comment period will be established, and a hearing will be held during the comment period. The Department will consider the comments, and will revise the draft report if the recommended changes are consistent with the allocation process outlined in this Plan. The Department will prepare a written response that explains why each comment has either been accepted or has been determined to be inconsistent with the allocation process outlined in this Plan.

#### (d) Proposed Changes Submitted to Tracking System Administrator

The Department will submit a copy of all comments received, the response to those comments, and any proposed changes to the budget and source allocations to the TSA within sixty days of receipt of the draft regional allocation report.

(e) Compilation of Changes

The TSA will compile the comments, responses, and proposed changes to the report and will submit a final draft regional allocation report that is consistent with the allocation methodology outlined in this Plan to the Department within 90 days of the receipt of the draft regional allocation report.

(f) Final Regional Allocation Report

The Department will review the final regional allocation report and will determine the budget for Wyoming and allocations for WEB sources within Wyoming in accordance with the allocation methodology outlined in this Plan within 30 days of receipt of the final draft allocation report. The Department will submit the budget and allocations for all WEB sources in Wyoming to EPA, and will notify the TSA that the WEB source allocations should be recorded in the allowance tracking system.

(g) Notification

The Department will notify all WEB sources within Wyoming of the number of allowances that have been recorded in their compliance account. The notice will include a warning to the WEB sources that reported annual sulfur dioxide emissions may change due to the implementation of new monitoring methods as required by Chapter 14, Section 2(h). Allocations for the first five years of the program will not be adjusted to account for changes due to the new monitoring method. However, allocations during the next five-year distribution will be adjusted as needed to account for paper changes in emissions due to changes in monitoring methodology.

## C1.2 Distribution of Allowances for Future Control Periods

By December 1 of the year five years after the initial allocation, the Department will follow the process outlined in Part C1.1 of this section to distribute allowances for the next five-year period. This process will continue every five years until allowances have been allocated through the year 2018.

## C1.3 Distribution of the New Source Allocation

(a) The new source set-aside will be available for two categories of sources.

1. New WEB sources are eligible to receive an annual floor allocation equal to the lower of the annual permitted sulfur dioxide emissions for the source, or sulfur dioxide annual emissions calculated based on a level of control equivalent to BACT and assuming 100% utilization of the WEB source, beginning with the first full calendar year of operation and in accordance with the provisions of Chapter 14, Section 2(f)(vi).

2. Existing sources that increase production are eligible to receive allowances from the new source set-aside equal to:

- (i) the permitted annual sulfur dioxide emission limit for a new unit; or
- (ii) the permitted annual SO<sub>2</sub> emission increase for the WEB source due to the replacement of an existing unit with a new unit or the modification of an existing unit that increased the production capacity of the WEB source.

Permitted emission increases due to fuel switching or other process changes that are not directly related to increased production capacity are not eligible for allocations from the new source set-aside. The allocation from the new source set-aside in the first year of operation will be adjusted to account for the number of days that the source is operating in that first year.

EXAMPLE. A new unit with a nameplate capacity of 400 MW is constructed at a power plant with two existing units with nameplate capacities of 400 MW and 300 MW. The two existing units install SO<sub>2</sub> controls and reduce emissions to meet PSD requirements for the construction of the new unit. In this example, the source would continue to receive a floor and a reducible allocation for each of the existing units, and would also be eligible to receive an allocation from the new source set-aside for the new unit. Even though total SO<sub>2</sub> emissions will decrease at this plant due to the construction of the new unit, the allowances allocated to the source will increase to reflect the increase in production capacity of 400 MW of electricity. If the new unit comes on line on July 1 the allocation for the first year will be reduced by 50 percent because the unit was operational for half of the year.

(b) Allocations from the new source set-aside will remain constant for the applicable WEB source and will be made on an annual basis by March 31 of each year for the current control period. When the next five-year allocation block is distributed as outlined in Part C1.2 of this section, all sources with an allocation under the new source set-aside will receive a five-year allocation block from the new source set-aside, and will continue to receive this allocation in future five-year allocation blocks.

(c) Owners or operators of new WEB sources or modified WEB sources that meet the eligibility requirements of (1) may apply for an allocation from the new source set-aside by submitting a written request to the Department as outlined in Chapter 14, Section 2(f)(vi).

(d) The Department will review the application for an allocation for accuracy and completeness, and will notify the source of intent to distribute allocations from the regional new source set-aside pending verification that allowances are available in the new source set-aside account. The Department will then forward the request to the TSA.

(e) The TSA will document the date that the request is received by the TSA. Requests for allocation of allowances from the new source set-aside will be processed in the order received. The TSA will deduct the number of allowances requested from the regional new source set-aside that was established by the participating states and tribes, and will then record an equal number of allowances in the source's compliance account for each remaining year of the five-year period. The TSA will then send written notification to the source and to the Department that the allowances have been recorded in the source's compliance account.

(f) If there are insufficient allowances remaining in the new source set-aside to fulfill the request, the source must purchase the allowances required to demonstrate compliance. Any eligible WEB source that does not receive an allocation from the new source set-aside because the set-aside was depleted will be first in line to receive an allocation when the new source set-aside is increased in the next five-year period as outlined in Section C1.1(b)3 of this Plan. If there is more than one such source, their allocation requests will be processed in the order they were received by the TSA.

(g) A source that has received a retired source exemption and continues to receive an allocation as a retired WEB source is not eligible to receive an allocation from the new source set-aside.

#### C1.4 Regional Tribal Set-aside

(a) Each year after the program is triggered for which allowances are allocated, 2,500 allowances will exist as a tribal set-aside.

(b) The tribal caucus of the WRAP has stated its intent to determine the means for distributing the allowances among the tribes by one year after the program trigger date. The Department understands that there will be a process that shall meet the tracking and data security requirements of the allowance tracking system by which a tribe shall move its set-aside allowances into the trading program for the purposes of trading.

(c) The State recognizes that the tribal set-aside allowances are bonus allowances for the tribes and as such, are separate and additional to any allowances included in a tribal budget or the new source set-aside as outlined in the allocation report in Part C1.1(b)(1) of this section.

C1.5. Opt in Sources. The State of Wyoming is deferring inclusion of provisions for opt-in sources until a future SIP revision to allow time to thoroughly consider how to provide the flexibility and potential benefits to the market by expanding the program while also ensuring that the SO<sub>2</sub> emission reductions goals are maintained.

## **C2 WEB Emissions and Allowance Tracking System (WEB EATS)**

The Department will provide a centralized system for the tracking of allowances and emissions within the framework of the SIP. The centralized system will be referred to as the WEB

Emissions and Allowance Tracking System (WEB EATS). The WEB EATS must provide that all necessary information regarding emissions, allowances, and transactions is publicly available in a secure, centralized database. The EATS must ensure that each allowance is uniquely identified, allow for frequent updates, and include enforceable procedures for recording data.

The Department shall work cooperatively with other states and tribes participating in the WEB Trading Program to designate this system. The Department shall be responsible for ensuring that all the EATS provisions are completed as described in this Plan.

The EATS will not exist unless the program is triggered. Prior to the implementation of the WEB Trading Program, a separate emissions tracking database will be employed to track the ongoing emissions of sources emitting SO<sub>2</sub> at amounts equal to or greater than 100 tons per year. The emissions tracking database, used to track and measure SO<sub>2</sub> emissions against the milestones, will still exist once the WEB Trading Program is triggered; however, it shall become incorporated into the SO<sub>2</sub> Emissions and Allowance Tracking System. Both the emissions tracking database and the EATS shall be centralized systems with data posted in a format, including an electronic, Web-based program, and available to all persons.

The participating states and tribes shall contract with a common Tracking System Administrator to service and maintain the WEB EATS. It is envisioned that the EATS will require the use of a contracted consultant or database design engineer to create a secure, efficient and transparent tracking system. Because the EATS shall be utilized by all states and tribes participating in the program, the design will require a uniform approach and level of security that will satisfy regional needs and concerns as well as meet the electronic, Web-based, access needs and security provisions. Due to the dynamic needs of the marketplace, the EATS will require a database that will reflect the current status of allowances and allowance transactions. The EATS shall be operational within one year after the program trigger date.

Specifications of the WEB EATS such as emissions tracking, the recording of allowance transactions, account management, system integrity and transparency are outlined in the WEB Emissions and Allowance Tracking System (EATS) Analysis. The EATS Analysis and related sections of Chapter 14, Section 2 detail how a WEB source will register for the EATS and how the source will, through an account representative, establish accounts, transfer allowances, and track unused allowances from a previous year. The account representative will also look to the Analysis to determine the appropriate interface with the EATS.

Neither the Department nor the TSA shall adjudicate any dispute concerning the authorization of any Account Representative with regard to any representation, action, inaction, or submission of the Account Representative.

As an example of how the WEB EATS will generally function, once the WEB Trading Program is triggered a WEB source will have its allowance allocation determined. On a parallel track, the WEB source's account representative will register for the EATS under Section 2(e) of Chapter 14, and a compliance account will be established under Section 2(g) of Chapter 14. Each allowance will be assigned a serial number. The allowance serial number will be used by the WEB EATS to track allowance allocations, transfers (Section 2(i) of Chapter 14), deductions,

and account for any unused allowances from a previous year (Section 2(j) of Chapter 14). The serial number will also be assigned each allowance recorded in a general account, an account for allowances that are not held to meet program compliance requirements. Furthermore, the EATS will track tribal allowance set-asides and new source allowance set-asides not yet assigned to either a compliance or general account.

It is important to note that while an effort has been made in this Plan to provide a design for and an operational understanding of the EATS, the components of the EATS will need to be examined and possibly altered upon each required SIP revision.

### **C3 Allowance Transfers**

Allowance transfers are defined as the conveyance from one account to another account (compliance account or general account) of one or more allowances by whatever means, including but not limited to purchase, trade, or gift in accordance with the procedures established in Section 2(i) of Chapter 14. This includes transfer of allowances for the purpose of retirement. Once an allowance is retired, it is no longer available for transfer to or from any account. Allowances may be purchased by any party for the purpose of retirement.

The Tracking System Administrator shall have specific recording requirements involving transfers. These required procedures will be detailed in the service contract but are outlined here as well.

#### **C3.1 Recording of Allowance Transfers**

Within five business days of receiving an allowance transfer, except when the transfer does not meet the requirements of this section, the Tracking System Administrator shall record an allowance transfer by moving each allowance from the transferor account to the transferee account as specified by the request, provided that:

- (a) The transfer is correctly submitted; and
- (b) The transferor account includes each allowance identified in the transfer.

Any allowance transfer that is submitted for recording following the allowance transfer deadline and that includes any allowances allocated for a control period prior to or the same as the control period to which the allowance transfer deadline applies, shall not be recorded until after completion of the compliance account reconciliation.

Where an allowance transfer submitted for allowance transfer recording fails to meet the requirements of this section, the Tracking System Administrator shall not record such transfer.

#### **C3.2 Notification of the Recording of Allowance Transfers**

The Tracking System Administrator has specific responsibilities involving the notification of the recording of any transferred allowances, including the failure to record any transfer of

allowances. Again, these required procedures will be outlined in the service contract, but will include what is outlined here.

(a) Within five business days of the recording of an allowance transfer, the Tracking System Administrator shall notify the Account Representatives of both the transferor and transferee accounts, and make the transfer information publicly available on the Internet.

(b) Within five business days of receipt of an allowance transfer that fails to meet the requirements of Section 2(i) of Chapter 14, the Tracking System Administrator shall notify the Account Representatives of both accounts of the decision not to record the transfer, and the reasons for not recording the transfer.

## **C4 Use of Allowances From a Previous Year**

### **C4.1 Background**

Unused allowances may be kept for use in future years in accordance with Section 2(j), Chapter 14.

Allowances kept for use in future years may be used in calendar year 2018 only to the extent that the Implementation Plan guarantees that such allowances will not interfere with the achievement of the 2018 milestone. Section 2(j)(iv), Chapter 14 addresses this requirement by prohibiting the use, after the year 2017, of allowances allocated for the years 2003 - 2017. This provision ensures that actual emissions will be less than the 2018 milestone because only allowances allocated for the year 2018 could be used to show compliance in that year. The provision also maintains flexibility by resetting the baseline to the year 2018 and then allowing sources to once again use extra allowances to show compliance in any future year. This flexibility is important for sources that have variable operations because the source may build up a reserve of unused allowances for use in a high production year.

Increased flexibility and early reduction stimulus are a benefit to allowing the WEB source to tap the previous year's unused allowances.

Because the regional haze SIP is based on reasonable progress requirements related to the remedying or prevention of any future visibility impairment, it is important to assure the use of these allowances will not interfere with attainment or maintenance of any reasonable progress goals. The safeguard employed here to mitigate this type of risk is termed, "flow control".

### **C4.2 Flow Control Provisions**

At the end of each control period, WEB sources may transfer allowances in and out of their compliance account for a period of 60 days to ensure that the account will contain enough allowances to cover sulfur dioxide emissions during the previous year. At the end of the sixty-day transfer period, allowances shall be deducted from the compliance account of each WEB source in an amount equal to the sulfur dioxide emissions of that source during the control period.

After the deductions have been completed, the Tracking System Administrator shall perform the following calculations and prepare a report according to Part C7.1(b) of this section.

(a) Determine the total number of allowances remaining in the allowance tracking system that were allocated for the just completed control period and all previous control periods.

(b) If the number calculated in (a) exceeds 10 percent of the milestone for the next control period, then the flow control procedures in Section 2(j)(iii) of Chapter 14 shall be triggered for that next control period. These flow control provisions will discourage the excessive use of allowances that were allocated for an earlier control period without establishing an absolute limit on their use. WEB sources will maintain the option to use allowances allocated for an earlier control period, but will be required to use two allowances for each ton of SO<sub>2</sub> emissions. Flow control operates as follows:

1. The flow control ratio shall be calculated by multiplying one tenth multiplied by the milestone for the next control period divided by the total number of unused allowances remaining in the system.

2. To calculate the number of prior-year allowances that can be used without restriction by a source for the next control period, the TSA shall multiply them by the flow control ratio. The resulting number of allowances may be used on a one-to-one ratio to show compliance with the source's allowance limitation as outlined in Section 2(k) of Chapter 14.

3. The remaining prior-year allowances may be used on a two-to-one ratio to show compliance. Thus, WEB sources will maintain the option to use allowances allocated for an earlier control period, but will be required to use two of those allowances for each ton of SO<sub>2</sub> emissions.

Example: On March 1, 2010 (the compliance transfer deadline for the 2009 control period) the Tracking System Administrator deducts allowances from the compliance account for each WEB source to cover 2009 SO<sub>2</sub> emissions from that source. After completing these deductions, the TSA reports the following information:

Total number of allowances still in the system for the years 2003 – 2009	=	30,000
2010 milestone	=	200,722
Percent of milestone	=	14.94%

Because the number of allowances not used in previous control periods is greater than 10% of the milestone, flow control procedures are triggered. In the annual report required in Part C7.1(b) of this section the TSA will then calculate the flow control ratio for 2010:

$$0.1 \times 2010 \text{ Milestone} \div \text{prior year allowances} = \text{flow control ratio}$$

$$0.1 \times 200,722 \div 30,000 = 0.70$$

On March 1, 2011 (the compliance transfer deadline for the 2010 control period) the TSA will apply the 2010 flow control ratio before deducting allowances from each WEB source's compliance account:

WEB Source A	2010 Allowances	=	1,000
	Remaining Prior Year Allowances	=	600
	2010 Emissions	=	1,580

In this example, the TSA would multiply the prior year allowances by 0.70 to determine the number of prior year allowances that could be used without restriction, at a one-to-one ratio. This would equal 420. The remaining prior year allowances would then be used at a 2:1 ratio. 360 allowances would be needed to cover the remaining 180 tons of SO<sub>2</sub> emissions. The TSA would therefore deduct a total of 1,780 allowances (1,000 + 420 + 360) to cover 1,580 tons of SO<sub>2</sub> emissions.

### **C5 Monitoring and Recordkeeping**

C5.1 For WEB sources subject to 40 CFR part 75, the EPA Administrator shall quality assure and finalize the data for submission to the Tracking System Administrator. For WEB sources subject to WEB Trading Monitoring Protocols in Appendix A of Chapter 14 of the Wyoming Air Quality Standards and Regulations, the Department shall quality assure and finalize the data in accordance with these provisions for submission to the Tracking System Administrator.

C5.2 The Department shall verify and submit data to the emissions tracking database as soon as reasonably feasible after annual emissions are reported by the WEB sources. *Note: these timelines will be modified, as necessary, according to the monitoring protocols.*

C5.3 *Special Reserve Compliance Accounts.* The WEB Trading Program requires most WEB sources to install continuous emission monitoring systems (CEMS) that meet the monitoring, recordkeeping and reporting requirements of 40 CFR part 75. However, there are some emission units that are not physically able to install CEMS and there are also emission units that do not emit enough sulfur dioxide to justify the expense of installing these systems (see Chapter 14, Section 2(h)(i)(B)). The WEB Trading Program allows these emission units to continue to use their pre-trigger monitoring methodology, but does not allow the WEB source to transfer any allowances that were allocated to that unit for use by another WEB source. The restriction on transferring these allowances is needed to ensure that an emission reduction of sulfur dioxide and the corresponding increase in sulfur dioxide are equal. The allowances associated with emission units that continue to use their pre-trigger monitoring methodology are placed in a special reserve compliance account, while allowances for other emission units are placed in a regular compliance account. Allowances may not be traded out of a special reserve compliance account, even for use by emission units with CEMS at the same WEB source. However, the WEB source may use allowances in the compliance account to demonstrate compliance with the WEB source's allowance limitation.

Chapter 14, Section 2(h)(i)(B)(I) allows WEB sources with any of the following emission units to apply to establish a special reserve compliance account:

- (a) any smelting operation where all of the emissions from the operation are not ducted to a stack; or
- (b) any flare, except to the extent such flares are used as a fuel gas combustion device at a petroleum refinery; or
- (c) any other type of unit without add-on sulfur dioxide control equipment, if the unit belongs to one of the following source categories: cement kilns, pulp and paper recovery furnaces, lime kilns, or glass manufacturing.

The emission units described in (a) and (b) cannot physically be monitored using a CEM. The emission units described in (c) do not typically have add-on controls for sulfur dioxide. These units, addressed in Chapter 14, Section 2(h)(i)(B), are expected to operate within their floor-level allocation and therefore will not be affected by the market, unless they make a process change and wish to sell allowances on the market. Other sources that are meeting the more rigorous monitoring requirements of Chapter 14, Section 2(h)(i)(A) and emit sulfur dioxide above their expected allocation will either need to purchase allowances or install sulfur dioxide controls. Therefore, it is important that all emission units that participate in emissions trading have an accurate monitoring methodology that is comparable to other sources in the program to ensure that a ton of reductions is the same regardless of where the reductions originate.

The Department will review the application to monitor under Chapter 14, Section 2(h)(i)(B)(I). If the emission units meet the criteria in Chapter 14, Section 2(h)(i)(B)(I), the Department will determine the portion of the WEB source's allocation that is associated with the emission units that will be monitored under Chapter 14, Section 2(h)(i)(B)(I) and will require the TSA to record that portion of the WEB source's allocation in the special reserve compliance account. The Department will use the methodology for determining allocations described in Section C1.1 of this Plan to determine the portion of the allocation that is associated with emission units monitored under Chapter 14, Section 2(h)(i)(B)(I). The Department will notify the WEB source that the application has either been accepted or rejected, including a notification of the allowances that are to be recorded in the WEB source's regular compliance account and the special reserve compliance account.

If an emission unit that is monitored under Chapter 14, Section 2(h)(i)(B)(I) is permanently retired, the TSA will transfer the portion of allowances that were associated with that emission unit from the WEB source's special reserve compliance account to the source's compliance account. These allowances will then be available for use or sale by the WEB source. The allowances will be transferred after the compliance deduction has taken place for the last control period that the unit was in operation.

## **C6 Compliance and Penalties**

### **C6.1 Compliance, Excess Emissions, and Penalties**

When a WEB source exceeds its allowance limitation in Section 2(k) of Chapter 14, the Department shall require the Tracking System Administrator to deduct allowances from the following year's allocation in an amount equal to three times the WEB source's emissions of SO<sub>2</sub> in excess of its allowance limitation. This deduction shall be made from the WEB source's compliance account after deductions for compliance under Section 2(k) of Chapter 14. If sufficient allowances do not exist in the compliance account for the next control period to cover this amount, the Department shall require the Tracking System Administrator to deduct the required number of allowances, regardless of the control period for which they were allocated, whenever the allowances are recorded in the account.

Under the rule, sources may also be liable for penalties for each day of violations of the program's other requirements.

## **C7 Periodic Evaluation of the Trading Program**

### **C7.1 Annual Report**

(a) Beginning one year after compliance with the trading program is required, the Department shall obtain from the Tracking System Administrator an annual report that contains the following information:

1. The level of compliance program-wide;
2. A summary of the use and transfer of allowances, both geographically and temporally;
3. A source-by-source accounting of allocations compared to emissions;
4. A report on the use of unused allowances from a previous year in order to determine whether these emissions have or have not contributed to emissions in excess of the cap.
5. The total number of WEB sources participating in the trading program and any changes to eligible sources, such as retired sources, or sources that emit more than 100 tons of SO<sub>2</sub> after the program trigger date.

(b) Within 10 months after the allowance transfer deadline for each control period when compliance with the trading program is required, the Tracking System Administrator shall prepare a draft report that lists:

1. the total number of allowances deducted for the control period,
2. the total number of allowances remaining in the Allowance Tracking System allocated for that control period and any earlier control period,

3. proposed determination that flow control procedures have either been triggered or have not been triggered for the next control period, and
  4. if flow control procedures have been triggered, a draft flow control ratio calculated according to Part C4.2 of this section.
- (c) The Department shall evaluate the draft report, and shall propose a determination that flow control procedures have either been triggered or have not been triggered for the next control period.
- (d) The Department will publish a notice of availability of the draft report in newspapers of general circulation throughout Wyoming, and will hold a 30-day public comment period.
- (e) After the comment period the Department will make a final determination that the flow control procedures have either been triggered or have not been triggered for the next control period. If the flow control procedures have been triggered, the Department will notify all WEB sources in Wyoming that flow control procedures will be in effect during the next control period.

#### C7.2 Five-year Evaluation

- (a) The Department will work cooperatively with other participating states and tribes to conduct an audit of the WEB Trading Program no later than three years following the first full year of the trading program, and at least every five years thereafter. This evaluation does not replace the Implementation Plan assessments in 2013 and 2018. The evaluation will be conducted by an independent third party and include an analysis of:
1. Whether the total actual emissions could exceed the values in Table 1 of this Implementation Plan of the WEB Trading Program even though sources comply with their allowances;
  2. Whether the program achieved the overall emission milestone it was intended to reach;
  3. The effectiveness of the compliance, enforcement and penalty provisions;
  4. A discussion of whether states and tribes have enough resources to implement the WEB Trading Program;
  5. Whether the trading program resulted in any unexpected beneficial effects, or any unintended detrimental effects;
  6. Whether the actions taken to reduce sulfur dioxide have led to any unintended increases in other pollutants;

7. Whether there are any changes needed in emissions monitoring and reporting protocols, or in the administrative procedures for program administration and tracking; and,

8. The effectiveness of the provisions for interstate trading, and whether there are any procedural changes needed to make the interstate nature of the program more effective.

9. The integrity of the emissions and allowance tracking system, including whether the procedures for recording transactions are adequate, whether the procedures are being followed and in a timely manner, whether the information on sources' emissions are accurately recorded, whether the emissions and allowance tracking system has procedures in place to ensure that the transactions are valid, whether back-up systems are in place to account for problems with loss of data.

(b) The public shall have an opportunity to participate in this trading program evaluation.

(c) In the event that any audit results in recommendations for program revisions, Wyoming, in consultation with the WRAP, will make appropriate modifications to this Plan. Wyoming will revise this Plan if the program is not meeting its emission reduction goals.

(d) The Department shall submit a copy of the report to the EPA regional office.

### **C8 Retired Source Exemption**

Section 2(c)(iv), Chapter 14 outlines the procedure that a WEB source must follow to receive a retired source exemption. The exemption would allow the source to continue to receive an allocation, but would exempt the source from monitoring and recordkeeping requirements. The Department shall notify the source of its obligation to apply for a retired source exemption upon the cancellation or relinquishment of a permit.

In order to receive a retired source exemption, the source must submit a request for the exemption to the Department. The Department shall review this request, and within sixty days of receipt of the request shall notify the source that the retired source exemption has been granted or has been rejected. If the exemption has been rejected, the notification shall contain an explanation of the reasons for rejecting the request.

The Tracking System Administrator shall record an allocation to a WEB source that has received a retired source exemption. However, the allowances shall be recorded in a general account rather than a compliance account for the source. The TSA will transfer any existing allowances in the retired source's compliance account or special reserve compliance account into the general account for the retired source, and will close the compliance accounts.

A WEB source that is permanently retired and that does not request a retired source exemption shall forfeit all abandoned allowances in that source's compliance account, as outlined in Section 2(c)(iv), Chapter 14. The forfeited allowances shall not be redistributed to other sources, and

shall be permanently retired from the Allowance Tracking System, as outlined in Section 2(c)(iv)(E), Chapter 14. During the next five-year allowance distribution period the retired source shall not receive an allocation, and the allowances that would have been distributed to that source shall be added to the new source set-aside.

## **C9 Integration Into Permits**

It is expected that all WEB sources will at least initially be subject to Wyoming's Title V permitting requirements. Under Chapter 6, Section 3, Wyoming's approved Title V permitting program, the pre- and post-trigger requirements of the market trading program fall under the definition of "applicable requirements", and will be incorporated into each source's Title V permit. Chapter 6, Section 3 requires that any source that for any reason and at any time is not required to have a permit under Chapter 6, Section 3 must obtain a New Source Review permit pursuant to Chapter 6, Section 2 et seq. that incorporates the pre- and post-trigger requirements. Both types of permits are enforceable federally and by citizens pursuant to Wyoming's SIP.

## **Part D— Miscellaneous Provisions for Stationary Sources**

### **D1 Requirements of 2013 SIP Revision**

In addition to the requirements of 40 CFR 51.309(d)(10), the 2013 SIP shall contain:

1. Source-specific allocations for all WEB sources under the jurisdiction of the Department for the year 2018; and
2. Either the provisions of a program designed to achieve reasonable progress for stationary sources of SO<sub>2</sub> beyond 2018 or a commitment to submit a SIP revision containing the provisions of such a program no later than December 31, 2016. The program will ensure that the requirements of 40 CFR 51.309 for the first planning period are achieved, including requirements that cannot be measured until after 2018, such as the determination of compliance with the 2018 milestone.

### **Adjustments in Allocation Calculations**

This 2013 SIP revision will provide certainty to sources regarding their potential liability under the special penalty provisions for the year 2018 outlined in Part A5 of this section. The calculation of these allocations is delayed until 2013 to provide certainty about the number of sources that would qualify as WEB sources at that time; the allocations needed for new sources in the region; and early reductions that would need to be included in the allocation process. It is difficult to estimate the impact of these factors in 2003 because many things may change during the next 10 years.

If the 2018 milestone is not met, the starting point for the next planning period shall be the 2018 milestones, not actual emissions in 2018.

## D2 Achievement of 13 Percent SO<sub>2</sub> Emission Reduction

Pursuant to 40 CFR 51.309(d)(4)(ii), the State of Wyoming has determined that a 13 percent reduction in actual stationary source SO<sub>2</sub> emissions has occurred between the years 1990 and 2000. Table 3 below provides a state-by-state comparison of these emissions, and shows that there has been a 25 percent reduction from 1990 to 2000 for all states (from 828,775 tons to 621,838 tons). The current emissions and modeling data and results for stationary sources in the WRAP region are now available through the WRAP TSS (<http://vista.cira.colostate.edu/tss>). The methodology and data for the revised SO<sub>2</sub> Milestone Program are available at: <http://www.wrapair.org/forums/309/docs.html>. Tracking pre-trigger stationary source SO<sub>2</sub> emissions is found in Section 4.3 of Chapter 4 of the WRAP TSD.

**Table 3. State-by-State Comparison of SO<sub>2</sub> Emission Reductions, 1990-2000  
(in tons per year)**

<b>States</b>	<b>1990</b>	<b>2000</b>
Arizona	185,398	99,133
California	52,832	38,501
Colorado	95,534	99,161
Idaho	24,652	27,763
Nevada	52,775	53,943
New Mexico	177,994	117,344
Oregon	17,705	23,362
Utah	85,567	38,521
Wyoming	136,318	124,110
<b>Totals</b>	<b>828,775</b>	<b>621,838</b>

## D3 Provisions for Stationary Source NO<sub>x</sub> and PM

Assessment of need for NO<sub>x</sub> and PM milestones. Pursuant to 40 CFR 51.309(d)(4)(v), the State of Wyoming has evaluated the need for NO<sub>x</sub> and PM emission control strategies, the degree of visibility improvement expected, and whether such milestones are needed to avoid any net increase in these pollutants. This evaluation was made by the WRAP Market Trading Forum for all WRAP states, including the transport region states.

Several conclusions were reached based on current analyses. These include:

- (a) That for the vast majority of Mandatory Federal Class I areas throughout the WRAP region stationary source NO<sub>x</sub> and PM emissions are not a major contributor to visibility impairment;
- (b) That RAVI remedies are available in cases where particular stationary sources may impact particular Class I areas;

(c) Analysis for NO<sub>x</sub> and PM impacts in the 2007 309(g) SIP submittal has reaffirmed the position that the absolute need for milestones to support potential market-based programs is not yet established.

The initial assessment of the need for NO<sub>x</sub> and PM long-term strategies is provided in the Wyoming TSD. The State of Wyoming will continue to work with the WRAP to improve the emission inventories and regional modeling to support future policy decisions regarding stationary source NO<sub>x</sub> and PM emissions. The State of Wyoming has made an additional preliminary assessment on the need for long-term strategies for stationary sources of PM and NO<sub>x</sub> in the 309(g) SIP submittal due in 2007. NO<sub>x</sub> and PM long-term strategies are discussed in the 309(g) SIP submittal, with commitments to reassess in SIP updates for 2013 and 2018.

## **2. Applicable WRAP Reports and Documents**

Chapter 4, Section 4.3 of the TSD Development Plan provides a summary of the method for tracking and reporting stationary source emissions covered in the backstop trading program, through the WRAP emissions data system. The current emissions and modeling data and results for stationary sources in the WRAP region are now available through the WRAP TSS (<http://vista.cira.colostate.edu/tss>). The methodology and data for the revised SO<sub>2</sub> Milestone Program are available at: <http://www.wrapair.org/forums/309/docs.html>.

The *Western Emissions Backstop Emissions Trading and Allowance Tracking System (EATS) Analysis* report describes how emissions, allocations, and transactions will occur if the backstop trading program is triggered. This report is described further in the Wyoming TSD.

*Stationary Source NO<sub>x</sub> and PM Emissions in the WRAP Region: An Initial Assessment of Emissions, Controls and Air Quality Impacts* reviews possible emission control strategies for stationary sources of NO<sub>x</sub> and PM, and the degree of visibility improvement that would result from such strategies. The report is described further in the Wyoming TSD.

## **Section D. Mobile Sources**

### **1. Inventory and Determination of Significance of Mobile Source Emissions**

*(a) Inventory of Current and Projected Emissions from Mobile Sources.* Pursuant to 40 CFR 51.309(d)(5)(i), the State of Wyoming, in collaboration with the WRAP, assembled a comprehensive statewide inventory of mobile source emissions. The emission inventory showed the year with the lowest level of emissions would be the end of the SIP planning period in 2018 or perhaps later instead of 2005 as anticipated by the GCVTC. The substantial reduction of projected mobile source emissions from 2003 to 2018 is due to the adoption of new on-road and non-road vehicle emission and fuel standards by EPA.

*(b) Program to Assure Continuous Decline in Mobile Source Emissions.* Pursuant to 40 CFR 51.309(d)(5)(i)(A), the State of Wyoming commits to monitoring the emissions from mobile sources to assure a continuous decline in VOC, NO<sub>x</sub>, PM<sub>2.5</sub>, EC and OC emissions as defined in 40 CFR 51.309(b)(6). The table below demonstrates Wyoming's continuous decline in mobile source emissions over the period of 2002-2018. Since a decline is demonstrated, no further action is required to address mobile source emission of these pollutants.

**Table D-1. Mobile Source Inventory for 2002, 2008, 2013 and 2018**

Wyoming Emissions by Source Category		Sulfur Dioxide (SOx)	Nitrogen Oxide (NOx)	Organic Carbon <2.5 Microns (OC)	Elemental Carbon <2.5 Microns (EC)	PM <sub>2.5</sub>	Volatile Organic Carbon Gases (VOC)
Mobile Sources- On-Road	2002	2.6	105.6	0.8	1.2	2.2	39.1
	2008 w/309	0.2	68.1			1.6	23.6
	% Change (2002-2008)	-92%	-36%			-27%	-40%
	2013 w/309	0.2	42.9			1.2	17.9
	% Change (2008-2013)	0%	-37%			-25%	-24%
	2018 w/309	0.2	26.7	0.7	0.2	1.0	14.5
	% Change (2013-2018)	0%	-38%			-17%	-19%
Mobile Sources- Non-Road	2002	16.1	210.1	1.7	5.5	8.5	37.7
	2008 w/309	3.6	170.9			7.9	37.5
	% Change (2002-2008)	-78%	-19%			-7%	-0.5%
	2013 w/309	0.2	166.0			7.2	33.5
	% Change (2008-2013)	-94%	-3%			-9%	-11%
	2018 w/309	0.2	162.7	1.3	4.0	6.5	28.9
	% Change (2013-2018)	0%	-2%			-10%	-14%
<b>TOTAL MOBILE EMISSIONS IN WYOMING</b>	2002	18.7	315.7	2.5	6.7	10.7	76.8
	2008 w/309	3.8	239.0			9.5	61.1
	% Change (2002-2008)	-80%	-24%			-11%	-20%
	2013 w/309	0.4	208.9			8.4	51.4
	% Change (2008-2013)	-89%	-13%			-12%	-16%
	2018 w/309	0.4	189.4	2.0	4.2	7.5	43.4
	% Change (2013-2018)	0%	-9%			-11%	-16%
% Change (2002-2018)	-98%	-40%	-20%	-37%	-30%	-43%	

Notes: 1) Values are in average annual TPD; 2) Organic carbon (on-road), elemental carbon (on-road) and PM values include exhaust, brake wear and tire wear emissions. Data was available for 2002 and 2018 only for organic and elemental carbon; 3) Non-road values do not include commercial marine; 4) This information was taken from spreadsheets from ENVIRON, who developed updated on-road and off-road mobile source emissions inventories for 14 Western states for the 2002 base year and for three future years - 2008, 2013, and 2018. Emissions were estimated for an average weekday for each of the four seasons. ENVIRON surveyed state and local air quality planning agencies and also metropolitan planning organizations (MPOs) to obtain the most up-to-date mobile source activity data and control program information. On-road mobile source emissions were estimated with EPA's Draft NONROAD2004 model. Locomotive emissions were estimated based on locomotive fuel consumption. Aircraft emissions were based on aircraft landing and takeoffs and FAA EDMS emission factors. Commercial marine emissions were estimated using a variety of activity data sources and EPA emission factors.

*(c) Long-Term Strategies Necessary to Reduce Emissions of SO<sub>2</sub> From Non-Road Mobile Sources.* Pursuant to 40 CFR 51.309(d)(5)(i)(B), the State of Wyoming reviewed estimated SO<sub>2</sub> emissions from non-road mobile sources. For the period of 2002-2018 a 99% reduction in emissions has been calculated. This is shown in Table D-1. This reduction has been achieved through the promulgation of EPA's new rule on "Control of Emissions of Air Pollution From Non-road Diesel Engines and Fuel" (Final Rule June 29, 2004). A 99% reduction in SO<sub>2</sub> from non-road mobile sources is consistent with the goal of reasonable progress.

## **2. State of Wyoming Long-Term Strategy for Mobile Sources**

Pursuant to 40 CFR 51.309(d)(9) and 40 CFR 51.309(d)(5)(iv), the State of Wyoming recognizes efforts of EPA to reduce emissions from mobile sources through the national programs for vehicle emissions and fuel standards. Actions taken by EPA have resulted, or will result, in significant mobile source emission reductions that will positively impact visibility in the 16 Colorado Plateau Class I areas and additional Mandatory Federal Class I areas. The methods for incorporating federal and state emissions control programs are detailed in a series of reports specific to point, area, mobile, fire, and dust sources. The references for these reports are now available through the WRAP TSS (<http://vista.cira.colostate.edu/tss>).

## **3. Applicable WRAP Reports and Documents**

The current emissions and modeling data and results for mobile sources in the WRAP region are now available through the WRAP TSS (<http://vista.cira.colostate.edu/tss>).

See EPA *Revisions to the Regional Haze Rule To Correct Mobile Source Provisions in Optional Program for Nine Western States and Eligible Indian Tribes*, 68 FR 39842, July 3, 2003, and 5/6/03 WRAP letter to EPA entitled *Significance of Mobile Source Emissions for the Purpose of Section 309 of the Regional Haze Rule*. The rule eliminated the requirements in 309(d)(5)(ii) and (iii) related to determining if mobile sources are a significant contributor, and instead modified 309(d)(5)(i) to require showing a continuous decline in emissions from 2003-2018.

## E. Long-Term Strategy for Fire Programs

The WRAP's effort to document and understand the incidence of fire and its effect on visibility in Mandatory Federal Class I areas has been extensive and productive. WRAP modeling shows that prescribed fire emissions will continue to affect visibility. The current emissions and modeling data and results for fire sources in the WRAP region are now available through the WRAP TSS (<http://vista.cira.colostate.edu/tss>). The WRAP Fire Emissions Tracking System (FETS) was implemented in 2007 to address the ongoing fire tracking requirement for §309 regional haze plans.

### 1. Prescribed Fire Program Evaluation

Pursuant to 40 CFR 51.309(d)(6)(i), the State of Wyoming has evaluated its existing WAQSR Chapter 10, Section 2 Open burning restrictions and all Federal, State, and private prescribed fire smoke management programs in the State, based on the potential to contribute to visibility impairment in the 16 Class I areas of the Colorado Plateau, and how visibility protection from smoke is addressed in planning and operation. The State of Wyoming relied upon the WRAP report *Assessing Status of Incorporating Smoke Effects into Fire Planning and Operation*<sup>1</sup> as well as EPA's *Interim Air Quality Policy on Wildland and Prescribed Fires* as guides for making this evaluation. The State of Wyoming has also evaluated whether the State's existing WAQSR Chapter 10, Section 2 and these prescribed fire smoke management programs contain the following elements: actions to minimize emissions; evaluation of smoke dispersion; alternatives to fire; public notification; air quality monitoring; surveillance and enforcement; and program evaluation.

The result of this evaluation was the determination that revisions to the existing WAQSR Chapter 10, Section 2 Open burning restrictions as well as a new Smoke Management Regulation, to be incorporated as WAQSR Chapter 10, Section 4, would be required to meet the requirements of 40 CFR 51.309(d)(6)(i). WAQSR Chapter 10, Section 4 will establish requirements for vegetative burning sources for the management of emissions and air quality impacts from smoke on public health and visibility. A companion Smoke Management Program Guidance Document will also be developed by the State of Wyoming and will address the following elements: actions to minimize emissions; evaluation of smoke dispersion; alternatives to fire; public notification; air quality monitoring; surveillance and enforcement; and program evaluation.

A comprehensive stakeholder process to develop the new Smoke Management Regulation was initiated by the State of Wyoming in 2003, and will culminate in the initiation of the rulemaking process in December of 2003. The State of Wyoming will phase-in WAQSR Chapter 10, Section 4 during a six to eight month period after it becomes State-approved in 2004. This phase-in period will consist of an extensive public education and outreach effort by the State of Wyoming to garner full participation and compliance with WAQSR Chapter 10, Section 4.

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<sup>1</sup> All WRAP and EPA documents cited in Part E are available in the Wyoming TSD Supplement.

## **2. Emission Inventory and Tracking System**

Pursuant to 40 CFR 51.309(d)(6)(ii), a system was established in 2007 to develop a tracking system and an emissions inventory for the following pollutants: VOC, NO<sub>x</sub>, elemental and organic carbon, and fine particulate for fire sources within the State of Wyoming. WAQSR Chapter 10, Section 4 will require burn project reporting and the State of Wyoming will record the required burn project reporting information in a tracking system. For consistency, the State of Wyoming will use the emissions tracking system developed by the WRAP as defined by the *WRAP Policy on Fire Tracking Systems*. This policy identifies a process for gathering the essential post-burn activity information necessary to consistently calculate emissions and uniformly assess fire impact on regional haze. This policy is the basis for creating a fire emissions inventory within the State of Wyoming, using an emissions calculation mechanism developed by the WRAP. In addition, fire emission inventory updates will be provided in future progress reports, as part of the periodic implementation plan revisions, pursuant to 40 CFR 51.309(d)(10). See the *WRAP Policy on Fire Tracking Systems* for further information on the emissions inventory and tracking system to be utilized in Wyoming.

## **3. Strategy for Use of Alternatives to Burning**

The State of Wyoming is continuing to develop a process with key public and private entities to identify and remove administrative barriers to the use of alternatives to burning to prescribed fire on Federal, State, and private lands, pursuant to 40 CFR 51.309(d)(6)(iii). The process is collaborative and provides for continuing identification and removal of administrative barriers, and considers economic, safety, technical and environmental feasibility criteria, and land management objectives.

WAQSR Chapter 10, Section 4 will require the consideration and identification of alternatives to burning being planned and utilized. If alternatives to burning are not used, rationale will be required to be submitted to the State. The State of Wyoming will continually collect and assess this data to determine whether administrative barriers to the use of alternatives to burning exist. Should the State determine that an administrative barrier exists, the State will work collaboratively with the appropriate public and private entities to evaluate the administrative barrier, identify the steps necessary to remove the administrative barrier, and initiate the removal of the administrative barrier, where it is feasible to do so, as required by 40 CFR 51.309(d)(6)(iii). In addition, the process to identify and remove administrative barriers to the use of alternatives to burning will be addressed during the annual Smoke Management Program evaluation meeting.

The State of Wyoming will rely on the following documents as reference guides in the process for evaluating alternatives to burning: (1) *Nonburning Alternatives for Vegetation and Fuel Management*, and (2) *Burning Management Alternatives on Agricultural Lands in the Western United States*. These two documents were prepared by the WRAP and describe a variety of alternatives to burning and methods of assessing their potential applicability.

#### **4. Enhanced Smoke Management Program**

Pursuant to 40 CFR 51.309(d)(6)(iv), the smoke management programs that operate within the State of Wyoming shall be consistent with the WRAP *Policy on Enhanced Smoke Management Programs for Visibility*. This policy calls for programs to be based on the criteria of efficiency, economics, law, emission reduction opportunities, land management objectives, and reduction of visibility impacts. The WRAP *Policy on Enhanced Smoke Management Programs for Visibility* lists the previously identified elements under 40 CFR 51.309(d)(6)(i) as well as adding “burn authorization” and “regional coordination” elements to ensure visibility protection and meet the designation of “enhanced”.

The State of Wyoming evaluated the State’s existing WAQSR Chapter 10, Section 2 and concluded that a new Smoke Management Regulation, to be incorporated as WAQSR Chapter 10, Section 4, would be required to meet the requirements of 40 CFR 51.309(d)(6)(i) and be consistent with the WRAP *Policy on Enhanced Smoke Management Programs for Visibility*. The WAQSR Chapter 10, Section 4 and companion Smoke Management Program Guidance Document include burn authorization and regional coordination elements and are available in the Wyoming TSD Supplement.

#### **5. Annual Emission Goal**

Pursuant to 40 CFR 51.309(d)(6)(v), efforts will be made within the State of Wyoming to minimize emission increases in fire, excluding wildfire, to the maximum extent feasible, through the use of annual emission goals, in accordance with the WRAP *Policy on Annual Emission Goals for Fire*. This policy recognizes that emission reduction techniques can be used to minimize emissions from fire. The State of Wyoming will establish a collaborative mechanism for setting annual emission goals, and developing a process for tracking their attainment on a yearly basis.

The State of Wyoming intends to use this policy and quantify the emission reduction techniques that are being used within the State on a project-specific basis to reduce the total amount of emissions being generated from areas where prescribed fire is being used. The use of emission reduction techniques to meet this rule requirement is subject to economic, safety, technical and environmental feasibility, and land management objectives. The Wyoming TSD Supplement describes this process in more detail.

## **Section F. Paved and Unpaved Road Dust**

### **1. Assessment of Emissions From Paved and Unpaved Road Dust**

*(a) Assessment of paved and unpaved road dust emissions.* Pursuant to 40 CFR 51.309(d)(7), an assessment was made by the WRAP of the impact of dust emissions from paved and unpaved roads from transport region states on the 16 Class I areas of the Colorado Plateau. The current emissions data for road dust sources in the WRAP region are now available through the WRAP TSS (<http://vista.cira.colostate.edu/tss>). The State of Wyoming, in consultation with the WRAP, will perform further assessments of road dust impacts on visibility in the 16 Colorado Plateau Class I areas in the progress updates and status reports, and will submit implementation plan revisions as needed to make reasonable progress in the SIP amendments due in 2013 and 2018.

*(b) Contribution to Visibility Impairment Finding.* Pursuant to 40 CFR 51.309(d)(7) and the results of the assessment of the impact of road dust emissions described above, the State of Wyoming, in collaboration with other states through the WRAP, determined that road dust emissions are not a significant contributor at this time to regional haze visibility impairment within the Colorado Plateau 16 Class I areas. Based on these findings, no emission management strategies have been identified at this time. Wyoming will perform further assessments of road dust impact on visibility in the 16 Colorado Plateau Class I areas. The technical and policy foundation for this determination can be found in Chapter 7, Sections 7.2 and 7.3, of the WRAP TSD. The current emissions data for road dust sources in the WRAP region are now available through the WRAP TSS (<http://vista.cira.colostate.edu/tss>).

### **2. Applicable WRAP Reports and Documents**

Technical reports and analysis related to the impact from paved and unpaved road dust for item (1) below are now available through the WRAP TSS (<http://vista.cira.colostate.edu/tss>). Information for items (2) through (4) enumerated below can be found in Sections 7.2 and 7.3 of Chapter 7 of the TSD. (1) a summary of 1996 and 2018 emission inventories for re-entrained road dust from paved and unpaved roads; (2) a description of the definition of significance for road dust in the 16 Class I areas; (3) road dust modeling results – regional versus localized impacts; and (4) discussion of finding of no significance.

## Section G. Pollution Prevention

### 1. Description of Existing Pollution Prevention Programs in Wyoming

Pursuant to 40 CFR 51.309(d)(8)(i), Table G-1 summarizes all pollution prevention and renewable energy programs currently in place in Wyoming.

**Table G-1. Summary of Renewable Energy Programs Currently in Place in Wyoming.**

Policy Program Title	Statutory/Regulatory Citation	Program Description
<i>Ethanol Production Tax Credit</i>	Wyo. Stat. § 39-17-109(d)	The Wyoming Ethanol Production Tax Credit, previously set to expire on July 1, 2003, was extended under HB 0005 in March of 2003. Under the tax credit, any person who has a tax liability for the sale of ethanol-based motor fuel or gasoline sold for the purpose of blending into an ethanol-based motor fuel may redeem a credit of \$0.40 per gallon, valid with the Wyoming Department of Transportation (DOT). Under the 2003 provisions, an ethanol producer must purchase at least 25% (previously \$1,000,000) of Wyoming origin products during the year the tax credits were earned. The total tax credits redeemed per ethanol producer must not exceed \$2,000,000 per year (\$4,000,000 for all tax credits). An ethanol producer constructing a new ethanol plant after July 1, 2003, may receive tax credits for a maximum of 15 years. Producers qualifying for the tax credit on or before July 1, 2003 may only receive the tax credit until June 30, 2009, unless there is an expansion in production of at least 25%, which may increase the amount of time a tax credit may be received.
<i>Renewable Energy Sales Tax Exemption</i>	Wyo. Stat. § 39-15-105(a)(viii)(N)	In 2003, under HB 188, the Wyoming legislature added sales of equipment used to generate electricity from renewable sources to the list of types of sales or leases which are exempt from the state excise tax. Renewable resources include wind generation, solar, biomass, landfill gas, hydro, hydrogen, and geothermal energy.

Policy Program Title	Statutory/Regulatory Citation	Program Description
		<p>Equipment eligible for the exemption includes wind turbines, generating equipment, control and monitoring systems, power lines, substation equipment, lighting, fencing, pipes and other equipment for locating power lines and poles. Equipment not eligible for the exemption includes tools and other equipment used in the construction of a new facility, contracted services required for construction and routine maintenance activities, and equipment utilized or acquired after the project is operational. This exemption will be repealed on June 30, 2008.</p>
<i>Net Metering</i>	Wyo. Stat. § 37-16-101 through § 37-16-104	<p>House Bill 195 was passed by the House and Senate of the Wyoming legislature, and signed by the Governor on February 22, 2001. As a result, net metering took effect July 1, 2001. The rule applies to investor-owned utilities and rural electric cooperatives, and with passage of Senate File 106 in 2003, to municipal utilities. Eligible technologies under 2001 legislation include solar, wind, and hydro systems up to 25kW, with the addition of biomass in 2003. Excess generation is credited to the following month. When an annual period ends, the utility purchases unused credits at avoided cost. Systems must meet IEEE and UL standards and cannot be subject to additional interconnection requirements, although system owners must install a manual, lockable external disconnect.</p>
<i>Interconnection Standards</i>	WY code 37-16-101 et. seq.	<p>Wyoming's net metering law included basic interconnection requirements for systems generating up to 25kW of solar, wind, or hydropower, but the Wyoming Public Service Commission has not established separate interconnection rules, per se. There is no limit on overall enrollment specified within the law. Systems must comply with the National</p>

Policy Program Title	Statutory/Regulatory Citation	Program Description
		<p>Electric Code (NEC), Institute of Electrical and Electronic Engineers (IEEE), and Underwriters Laboratories (UL) safety and equipment standards. Customers must install an external disconnect switch at their own expense. Wyoming's Public Service Commission may make additional control and testing requirements. Additional liability insurance is not required. PacifiCorp (Pacific Power and Light) has developed a two-page interconnection agreement for net metering customers. Wyoming's Public Service Commission staff is discussing the development of standard interconnection rules for larger distributed generation systems.</p>
<i>Photovoltaic Grant Program</i>	Wyoming Business Council through DOE formula grant funding	<p>Wyoming's photovoltaic grant program offers grants of \$3000 or 50%, whichever is less, to residents who install photovoltaic or photovoltaic hybrid systems on their homes. Approximately 70 grants have been provided over the course of the program, which began in July 1996. Funding for the program comes from DOE formula grant money (renewed July 1 annually) and is administered by the Energy, Minerals, and Transportation Division of the Wyoming Business Council. Both grid-connected and off grid systems are eligible. Program requirements include an application, a copy of the equipment invoice, pictures of the installation, and quarterly reports on the system during the first year of installation.</p>
<i>Pacific Power – Blue Sky</i>	PacifiCorp	<p>PacifiCorp's green pricing tariff program, named Blue Sky, began accepting participants in April 2000. The program allows customers to voluntarily pay a premium for renewable energy generated from new wind turbines. Pacific Power (serving Oregon, Washington, and Wyoming) and Utah Power (serving Utah) customers can subscribe to the Blue Sky program by paying \$1.95/month for a 100kWh block. There is no limit to the</p>

Policy Program Title	Statutory/Regulatory Citation	Program Description
		<p>number of blocks available for purchase. As of March 2003, over 10,600 customers are participating in the Blue Sky program. Business customers have an extra incentive to participate. All businesses that commit to purchase a minimum of 4 blocks per month for one year will be featured in press releases, advertisements, and general marketing material. The program is certified by renew 2000. Marketing has included bill inserts, direct mail, telemarketing, mass media, and outreach using relationships with local environmental organizations.</p>
<p><i>Photovoltaic Leasing Program</i></p>	<p>Carbon Power and Light, Inc.</p>	<p>Carbon Power and Light Offers its customers a leasing program for photovoltaic systems, with an option to purchase equipment. Most solar systems are used to operate livestock watering installations. The utility provides all of the PV equipment, handles installation, and conducts routine maintenance of the systems. CP&amp;L will cover all of the construction costs below the electric facilities allowance (EFA) cap of \$2,500. The EFA is a standard line extension cost determined by the typical customer's average bill over a set number of years. The leasing period can extend for either five years or ten years. If a customer wishes to discontinue the lease, he or she can transfer the contract to another individual or purchase the system by paying off both the remaining balance of the line extension charges and the remainder of the monthly minimum amounts per the applicable rate tariff.</p>

## 2. Inventory of All Renewable Energy Generation Capacity and Production in Wyoming

Pursuant to 40 CFR 51.309(d)(8)(i), Table G-2 summarizes all renewable energy generation capacity and production in use as of 2003 (expressed in kW).

**Table G-2. Summary of Renewable Energy Generation Capacity and Production**

<b>Technology</b>	<b>Owner</b>	<b>Plant Name</b>	<b>Capacity (kW)</b>
Hydro	Bureau of Reclamation	Alcova	36,000
Hydro	Bureau of Reclamation	Boysen	15,000
Hydro	City of Buffalo	Buffalo	245
Hydro	Bureau of Reclamation	Buffalo Bill	18,000
Hydro	Bureau of Reclamation	Fontenelle	10,000
Hydro	Bureau of Reclamation	Fremont Canyon	66,800
Hydro	Shoshone Irrigation District	Garland Canal	2,610
Hydro	Bureau of Reclamation	Glendo	38,000
Hydro	Bureau of Reclamation	Guernsey	6,400
Hydro	Bureau of Reclamation	Heart Mountain	5,000
Hydro	Goodman, Charles	Kinky Creek	12
Hydro	Bureau of Reclamation	Kortes	36,000
Hydro	Bureau of Reclamation	Pilot Butte	1,600
Hydro	Pinedale Power & Light Co.	Pinedale	100
Hydro	Bureau of Reclamation	Seminole	51,000
Hydro	Bureau of Reclamation	Shoshone	3,000
Hydro	Bureau of Reclamation	Spirit Mountain	4,500
Hydro	Lower Valley Power & Light Inc.	Strawberry Creek	1,500
Hydro	Lower valley Power & Light Inc.	Swift creek	800
Hydro	PacifiCorp	Viva Naughton	750
Photovoltaic	University of Wyoming	University	10
Photovoltaic	University of Wyoming	University	1
Photovoltaic	University of Wyoming	Univ. Parking	35
Wind	Seawest Windpower Inc./Cinergy Global Power Inc.	Foote Creek IV	16,800
Wind	PacifiCorp/Eugene Water & Electric Board	Foote Creek	41,400
Wind	Bonneville Power Admin.	Foote Creek II	1,800
Wind	PSC of Colorado	Foote Creek III	24,750
Wind	Platte River Power Authority	Medicine Bow II	1,320
Wind	Shell Renewables	Rock River I	50,000
Wind	Platte River Power Authority	Medicine Bow I	3,300
Wind	Tera Moya Aqua/Global Wind Energy Systems	Simpson Ridge	10,000
<b>TOTAL</b>			<b>446,733</b>

Office of Energy Efficiency and Renewable Energy – US DOE

Total energy generation capacity for 1999 is summarized in Table G-3.

**Table G-3. Summary of Wyoming’s Total Energy Generation Capacity and Production**

WYOMING’S TOP 10 ELECTRIC GENERATING FACILITIES					
BY SUMMER MEGAWATT CAPACITY					
Rank	Operator	Plant Name	Fuel	MW	Percent
1	PacifiCorp	Jim Bridger	Petroleum, Coal	2,110	19.2%
2	Basin Electric Power Coop	Laramie River Station	Petroleum, Coal	1,667	11.6%
3	PacifiCorp	Dave Johnston	Petroleum, Coal	772	6.7%
4	PacifiCorp	Naughton	Gas, Coal	700	5.4%
5	PacifiCorp	Wyodak	Petroleum, Coal	335	5.4%
6	Black Hills Corp	Neil Simpson II	Petroleum, Coal	80	5.1%
7	Bureau of Reclamation	Fremont Canyon	Water	67	4.1%
8	Bureau of Reclamation	Seminole	Water	52	3.9%
9	BP Amoco Exploration	Anschutz Ranch East	Gas	43	3.2%
10	Bureau of Reclamation	Glendo	Water	38	3.2%
Total, Top 10 Plants				5,864	76%
Balance of State				246	
<b>Wyoming Total</b>				<b>6,110</b>	<b>MW</b>
Sources					
Energy Information Administration – DOE					

**3. Summary of Anticipated Renewable Energy Contribution**

Anticipated renewable energy contribution is not certain at this time. The contribution is dependent upon a review of certification of low impact hydropower. The State of Wyoming supports renewable energy goals.

**4. Incentive Programs**

Pursuant to 40 CFR 51.309(d)(8)(ii), Table G-4 below identifies incentive programs in the State of Wyoming that reward efforts to go beyond compliance and/or achieve early compliance with air pollution related requirements.

**Table G-4. Summary of Wyoming’s Incentive Programs**

<b>Program Title</b>	<b>Program Description</b>
Market Trading	Wyoming has opted into the Section 309 regional SO <sub>2</sub> “cap-and-trade program”.
Western Backstop SO <sub>2</sub> Trading Program Early Reduction Credits	As further described in Section C1.1 of the stationary source provisions of this Plan, industrial sources of SO <sub>2</sub> subject to the trading program which, upon verification by the State, reduce emissions to levels below their floor amount prior to the program trigger date shall receive additional emission allowances. Such allowances may be used by the source for compliance purposes or may be sold to other parties, hence, providing an incentive for sources to go beyond compliance (i.e., their floor) or to achieve early compliance (i.e., reductions prior to the program trigger date).
Western Backstop SO <sub>2</sub> Trading Program Renewable Energy Credits	As further described in Section C1.1 of the stationary source provisions of this Plan, allowances shall be provided to the owners of renewable energy facilities installed since October 1, 2000. Such allowances will hold a market value and therefore provide an incentive for power suppliers to invest in renewable energy facilities with zero or very low air pollutant emissions.

**5. Programs to Preserve and Expand Energy Conservation Efforts**

Pursuant to 40 CFR 51.309(d)(8)(iii), Table G-5 identifies programs in Wyoming that preserve and expand energy conservation efforts.

**Table G-5. Programs that Preserve and Expand Energy Conservation in Wyoming**

<b>Program Title</b>	<b>Program Description</b>
<i>Energy Exchange Program</i>	PacifiCorp offers the Energy Exchange Program, an internet based, voluntary demand reduction program. PacifiCorp posts a price for each hour that a load reduction is needed, and customers may respond by pledging to curtail a specific load. Participants are paid for each hour of curtailment based on a measured load reduction. Eligibility is limited to customers who have exceeded 1 MW within the last year.
<i>Energy Finanswer Large Commercial and Industrial Program</i>	PacifiCorp’s Energy Finanswer Large Commercial and Industrial Program provides rebates for energy efficient equipment, including lighting, motors, and HVAC. The program also incorporates a variety of energy-efficiency services, such as facility energy analysis, detailed design assistance, competitive financing, commissioning, and post installation savings verification.

<b>Program Title</b>	<b>Program Description</b>
Business Enhancement Program	<p>Black Hills Power offers a Business Enhancement Program to assist customers in the use of energy efficient electro-technologies such as energy storage and lighting. The following incentives are available: Lighting - Existing commercial customers who retrofit indoor lighting systems are eligible for up to a \$5,000 incentive if they sign a three-year electric power service contract. Without a contract the maximum incentive is \$500. Incentives are based on \$0.12 per watt saved for hard wire installations and \$0.04 per watt saved for compact florescent lamps. Power Factor Correction – Reduced demand charges are the primary incentive for commercial and industrial customers to improve their power factor. BHP provides an account analysis, rate savings calculations, and project financing. BHP requires the customer to sign a three-year electric power service contract for certain projects. Custom Packages – Other electro-technologies may qualify for an economic development incentive including closed loop heat pumps, geothermal loop fields, heating or air conditioning systems, water heating systems, power-quality equipment, and energy management systems. Financing, project design assistance, or an economic development rate may be other options to consider. These economic development incentives would be negotiated on a case-by-case basis and BHP would expect the customer to sign at least a three-year contract extension or, if a smaller customer, sign a five-year all requirements contract for electric service. Economic development rates would require a negotiated contract of up to seven years.</p>
Rebuild America	<p>Rebuild America is a U.S. Department of Energy (DOE) resource network that provides practical solutions and practices for a community’s energy related needs. It is a voluntary partnership program that assists individuals, organizations, or companies looking for opportunities to save money by cutting energy use in commercial, institutional, or multifamily buildings. It provides links to a network of technical tools and business experts. By participating in a Rebuild America Partnership, a community can save money, create jobs, promote community growth, and protect the environment through smart energy use.</p>
<i>NICE 3</i>	<p>The National Industrial Competitiveness through Energy, Environment, and Economics (NICE3) is a U.S. Department of Energy (DOE) Office of Industrial Technologies (OIT) program that funds the initial commercial demonstration of technologies to improve energy efficiency or reduce pollution associated with product manufacturing. State energy offices work with organizations to secure funding from NICE3 for qualifying projects. The company receiving the grant is the primary beneficiary of the program because it helps them reduce pollution, reduce energy costs, and reduce operating expenses. The Program focuses on industries identified as dominant energy users and waste generators, including agriculture, aluminum, chemicals, forest products, glass, metal casting, mining, petroleum, and steel.</p>
<i>BestPractices</i>	<p>BestPractices is an initiative of the Office of Industrial Technologies (OIT) industries of the future strategy, which offers tools to improve a plant’s energy efficiency, enhance its environmental performance, and increase its productivity. BestPractices focuses on plant systems where significant efficiency improvements and savings can be achieved. Industry gains easy access to near-term and long-term solutions for</p>

Program Title	Program Description
	improving the performance of motors, steam, compressed air, combined heat and power, and process heat systems.
<i>Motor Challenge</i>	The Motor Challenge Program is a voluntary industry/government partnership of the U.S. Department of Energy's Industrial BestPractices Strategy. Motor Challenge is designed to help industry capture significant electricity savings by providing the technical expertise and knowledge necessary to manage motor systems and purchasing more efficient motors. 79% of energy used in industry is used by motors.
Energy Star	Customer Education on Purchasing Decisions WDEQ is an ENERGY STAR® partner. This DOE/EPA program establishes stricter efficiency criteria for new products. As a partner, WDEQ has been able to not only increase awareness of ENERGY STAR, but also to provide information for customers so that they can make informed purchase decisions.
Energy Efficiency Audits	<i>Energy audits for residential customers are provided by local power and gas suppliers.</i>
Low Income Weatherization	The Wyoming Department of Family Services (DFS) administers the DOE-funded Weatherization Assistance program for the State of Wyoming. DFS sets the eligibility requirements and oversees local agencies that provide weatherization services in the field. This program, through its 13 local service providers, provided weatherization assistance to 232 homes in 2001.
Special Project Grants	The Energy Office administers the State Energy Project – Special Project Grants. Each year states submit proposals in response to a DOE solicitation identifying how specific technologies could be implemented in their region of the country. DOE then selects the projects that best meet national energy goals. The Wyoming Energy Office was awarded \$65,388 in 2001 to develop information on the performance of insulated foundations in coordination with the Building Science Consortium, a Building America team. The State will collect performance data, estimate investment and life cycle costs, and develop an action plan for deploying most advantageous crawl space, slab, and/or basement insulation configurations.
Federal Energy Management Program	Goal: reduce the cost and environmental impact of the federal government by advancing energy efficiency and water conservation, promoting the use of distributed and renewable energy, and improving utility management decisions at federal sites. Funds are occasionally available to the Wyoming Energy Office to partner with Indian communities and military bases or other federally-owned facilities.
State Energy Program	Working with the Department of Administration and Information, the Energy Office is utilizing DOE funding to implement the State energy plan, improve the State building energy codes, and provide public education and information.
Laramie County School District 1- Energy Efficiency	Laramie County School District 1 has implemented an energy efficiency program. The program has one full-time staff position and has been active for six years.

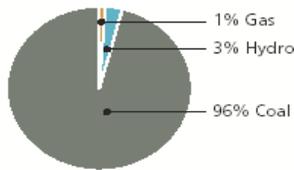
<b>Program Title</b>	<b>Program Description</b>
Rebuild America	U.S. D.O.E. Program supported by the Wyoming Energy Office to help businesses and communities reduce energy use in buildings.
Green Buildings	Green buildings are using design and construction practices that significantly reduce or eliminate the negative impact of buildings on the environment. The concept includes: Sustainable site planning Safeguarding water and water efficiency Energy efficiency and renewable energy Conservation of materials and resources Indoor environmental quality
National Industries of the Future/ MAMTC	Administered by Department of Energy – Office of Industrial Technologies Nine industries targeted that together supply 90% of the materials vital to U.S. economy. The 9 industries are: agriculture, aluminum, chemicals, forest products, glass, metal casting, mining, petroleum, and steel. Goal: Promote energy efficiency and manage waste streams.
Industrial Assessment Centers	Administered by DOE, OIT Enables eligible small and medium-sized manufacturers to have comprehensive industrial assessments performed at no cost to the manufacturers. Teams of engineering faculty and students from the center located at 26 universities around the country, conduct energy audits, or industrial assessment and provide recommendations to manufacturers to help them identify opportunities to improve productivity, reduce waste, and save energy.
Building America	Building America is a private/public partnership that provides energy solutions for production housing.

## 6. Potential for Renewable Energy

Pursuant to 40 CFR 51.309(d)(8)(iv), the State of Wyoming has utilized data assembled by the National Renewable Energy Laboratory assessing areas where there is the potential for renewable energy to supply power in a cost-effective manner. This section summarizes the potential for renewable energy development in Wyoming. Figure G-1 is a summary of current renewable resources in the state. Geographic distribution of renewable energy potential is contained in Figures G-2 through G-4. Figures G-5 and G-6 illustrate the load growth patterns in the region and infrastructure restrictions to renewable source future development. Figure G-7 illustrates projected cost of energy from renewable energy technology.

# Wyoming Renewable Energy Resources

## Existing Generation Mix



Data source: Energy Information Administration 1999

Wyoming has one of the best wind resources in the country and is already a large exporter of wind power to Colorado, Oregon and Utah. Wyoming also has good solar and biomass resources. Despite the presence of these renewable resources, however, Wyoming's electricity generation remains dominated by non-renewable resources.

## Renewable Energy Installed Renewable Capacity<sup>1</sup>

Resource Type	Installed Capacity
Wind	140.64 MW
Solar (PV)	0.05 MW
Solar (Thermal)	0 MW
Geothermal	0 MW
Biomass	0 MW
<b>Total</b>	<b>141 MW</b>

<sup>1</sup>Source: REPS database, plus known installations

## Renewable Energy Policies

**NM** Net Metering  
Maximum capacity – 50 kW

**GP** Green Power Programs

Data source: Database of State Incentives for Renewable Energy ([www.dsireusa.org](http://www.dsireusa.org))

## Annual Electricity Consumption (1999)

12 million MWh

## Economic Development at Foote Creek Rim



Foote Creek Rim Wind Farm

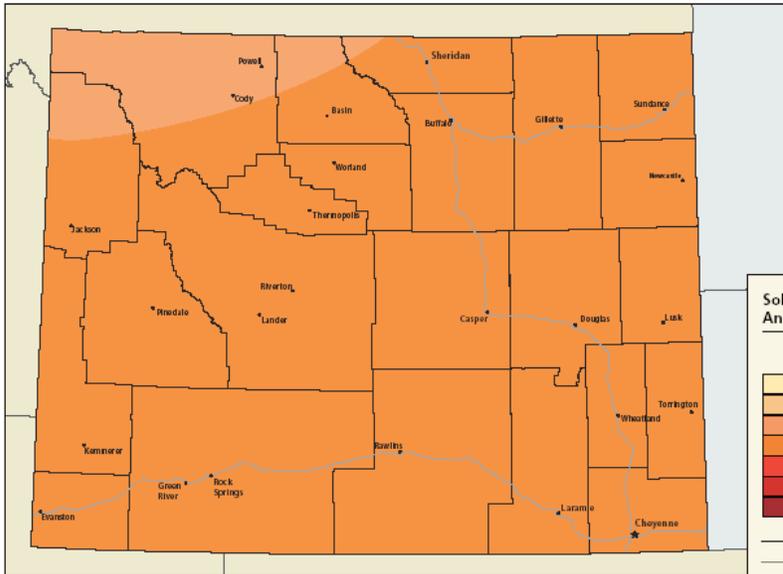
Photo: Tom Hall, DOE

Developing large-scale wind farms not only harnesses the vast potential energy found in the wind but also provides economic benefits for local landowners and residents. The Foote Creek Rim Wind Farm began operations in 1999 and has since grown to include 133 large-scale wind turbines, with a rated capacity of nearly 85 MW. Foote Creek Rim, the first commercial wind farm to go on line in Wyoming, is built on one of the windiest sites in the country. The facility was developed by SeaWest WindPower Inc. in three separate phases, and produces power for PacifiCorp, Eugene (OR) Water and Electric Board, the Bonneville Power Administration and Xcel Energy. Located in Carbon County, Wyoming (population 16,000), the wind farm is a significant contributor to the local economy. This facility will contribute over \$9 million in property taxes, nearly \$4 million in sales taxes and over \$5 million in royalty payments to landowners over its 20-year life span.

Figure G-1

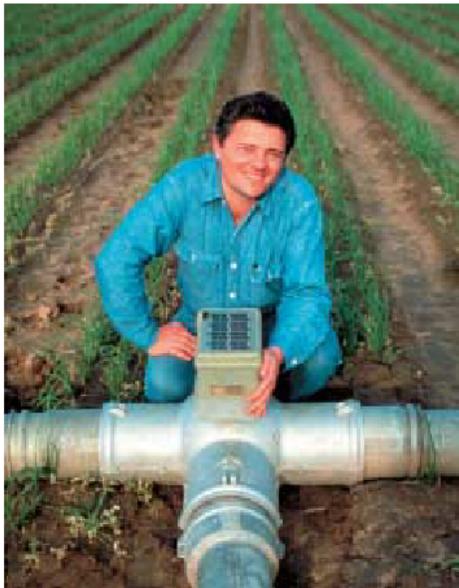
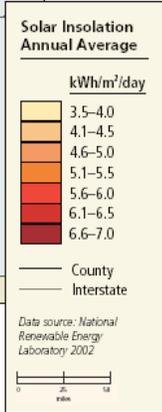
# Figure G-2

## Solar



Wyoming's solar resource is strong statewide. This clean, renewable energy source can be harnessed through active and passive solar applications.

**Electricity Generation Potential:**  
72 million MWh/yr.



**Farmer Using Photovoltaics**

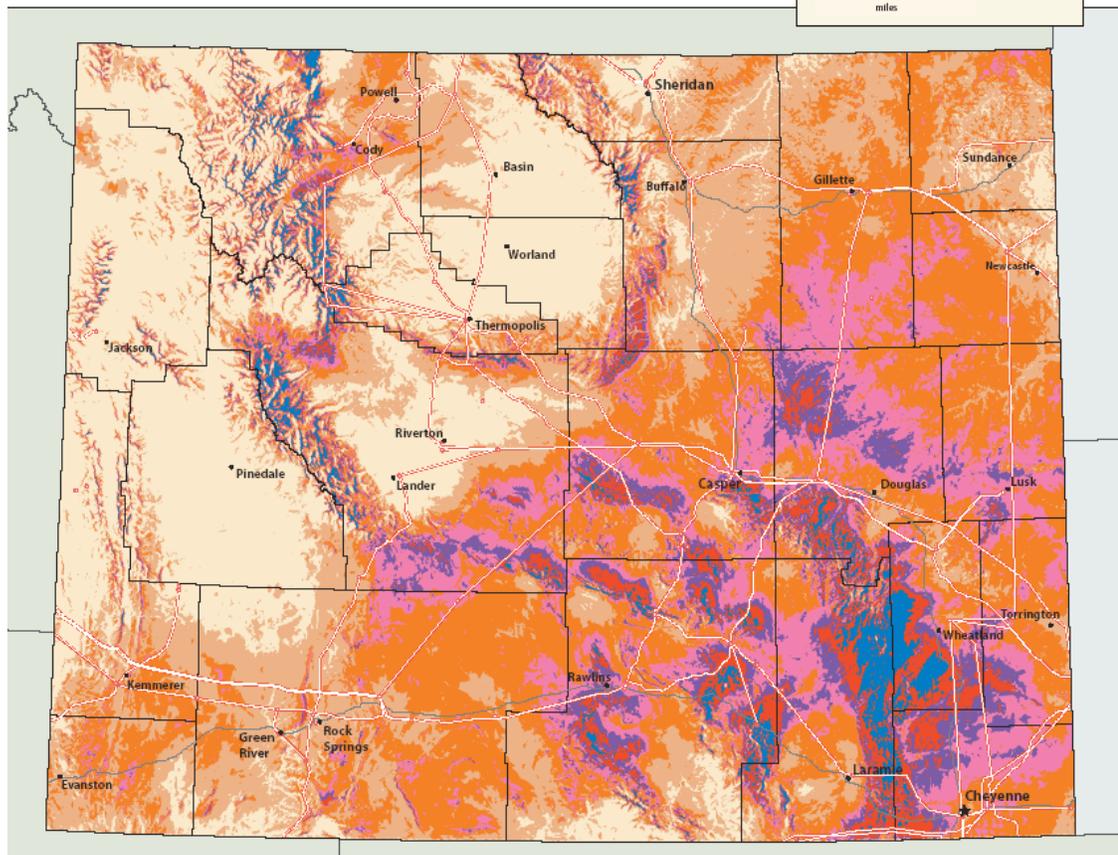
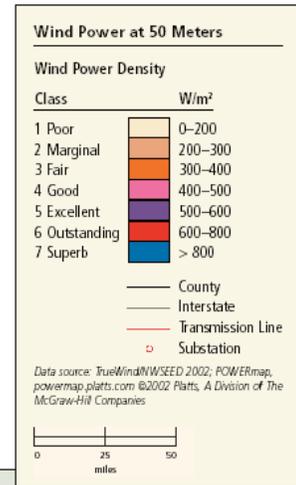
In parts of rural Wyoming, solar-powered control mechanisms can be used for irrigation systems, such as this PV-powered switch.

Photo: Siemens Solar Industries

## Wind

Wyoming has long been recognized for its outstanding wind resource and has already attracted the attention of several wind energy companies that have successfully developed projects in the state. The state is estimated to have over 14 million acres of windy land. Many utilities throughout the Western US buy their "green power" from Wyoming to meet their customers' demand for a cleaner energy portfolio.

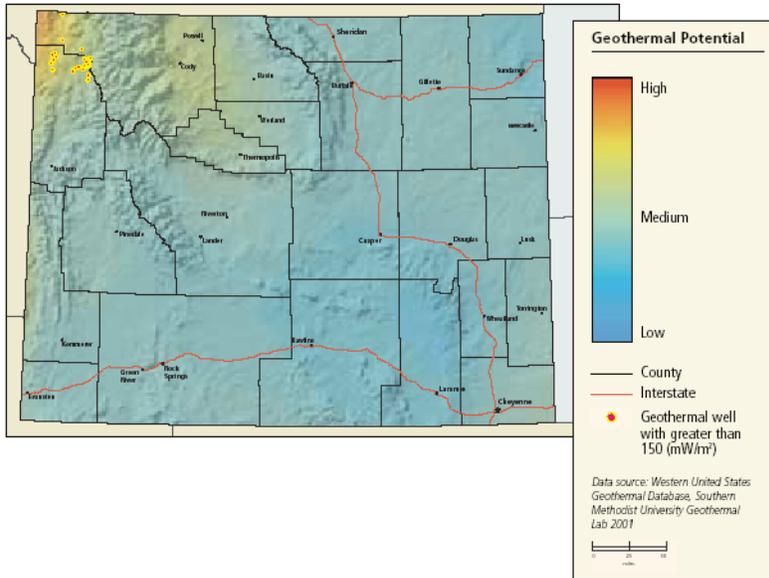
**Electricity Generation Potential:** 883 million MWh/yr.



**Figure G-3**

**Figure G-4**

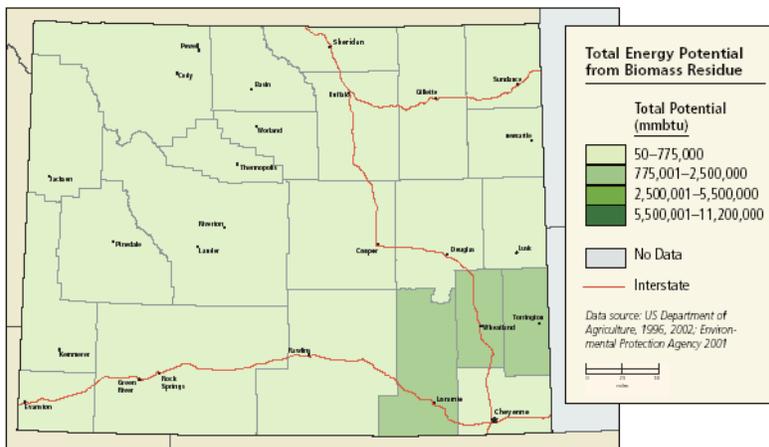
**Geothermal**



Wyoming's geothermal resources are concentrated in the north-west corner of the state, site of some of America's most famous natural wonders: the geysers and hot springs of Yellowstone National Park. High-temperature geothermal hotspots outside of sensitive environmental areas could prove suitable for electricity generation, while direct heating and cooling may be viable across the state.

**Electricity Generation Potential:**  
N/A

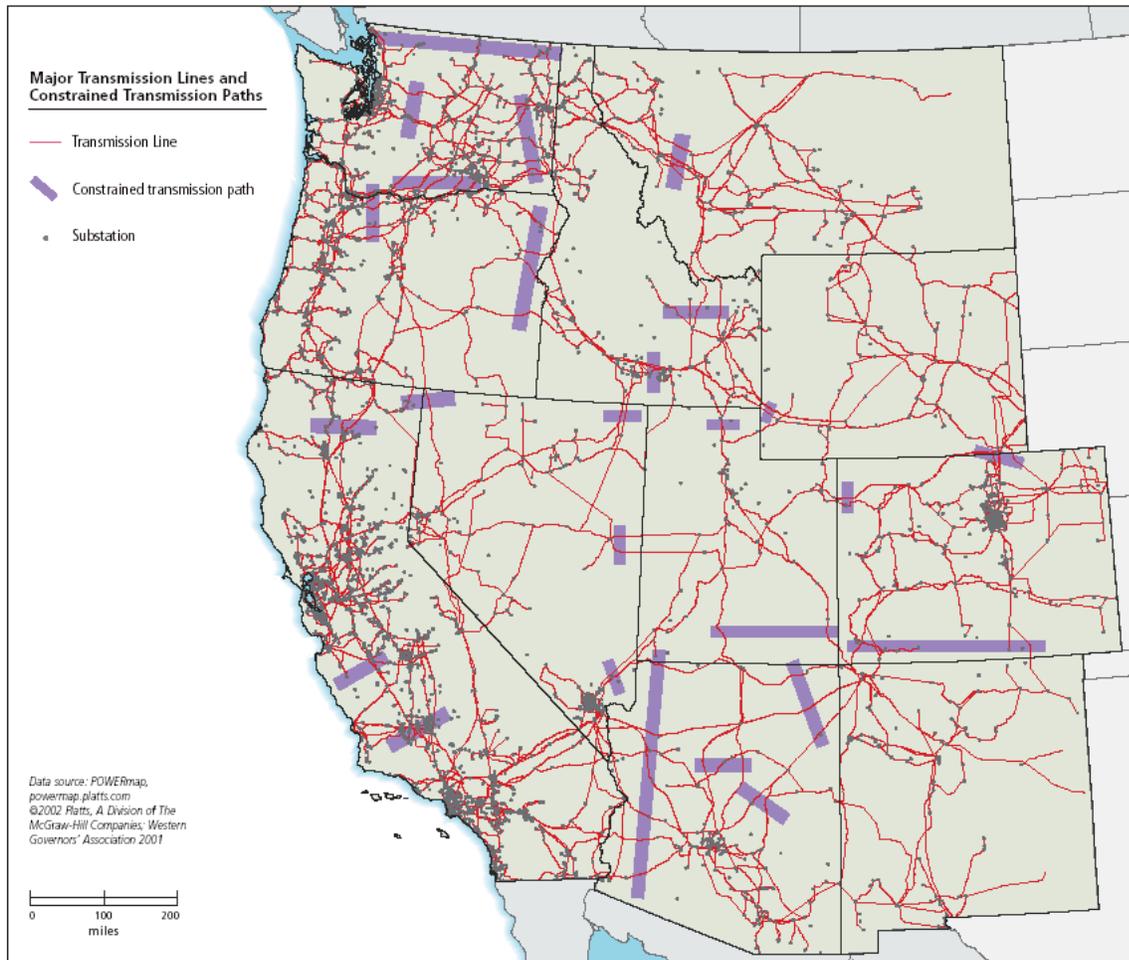
**Biomass**



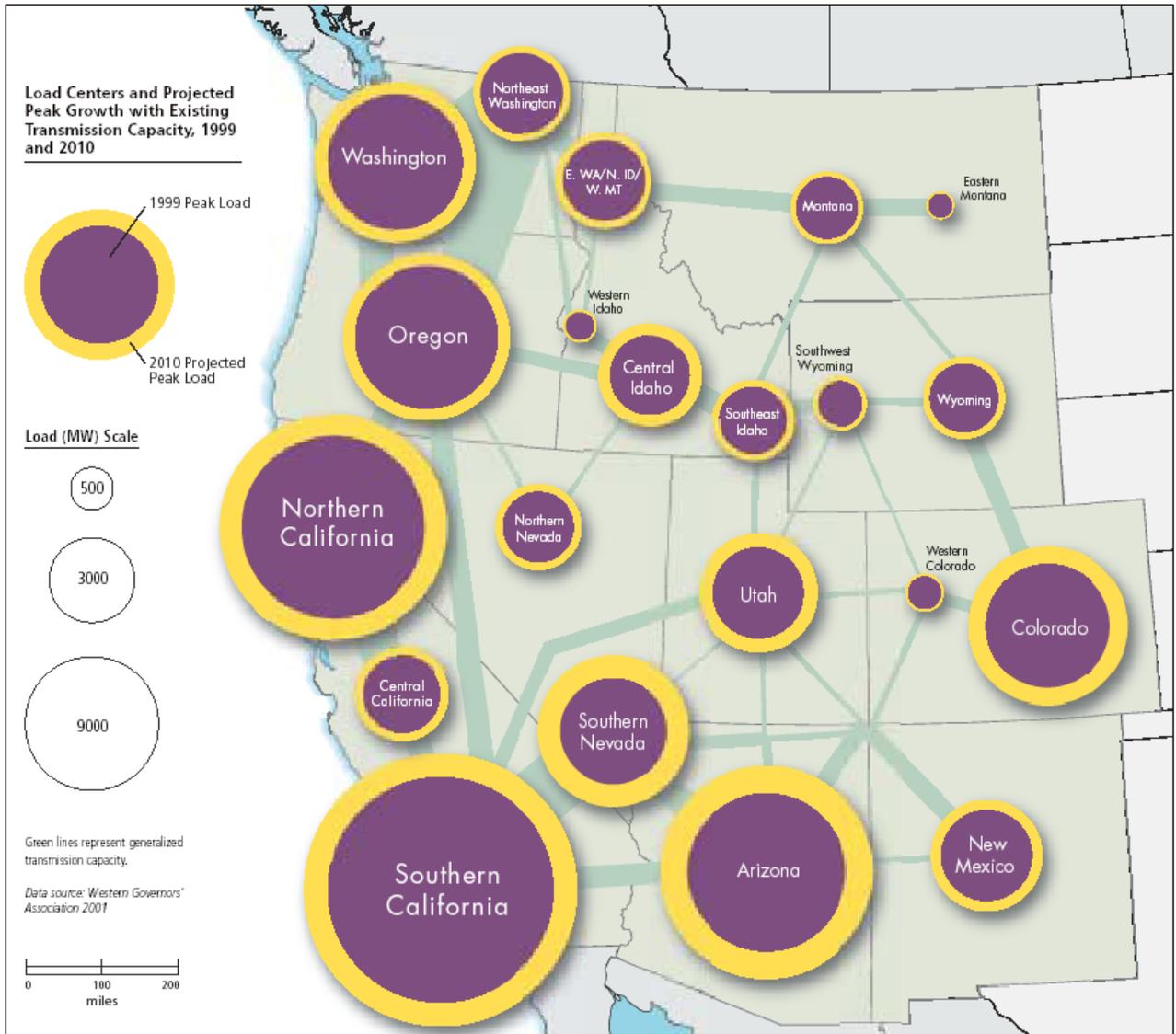
There are currently no electricity-producing biomass facilities in Wyoming, although there is limited potential to harness biomass resources in the state.

**Electricity Generation Potential:**  
0 million MWh/yr.

# Figure G-5

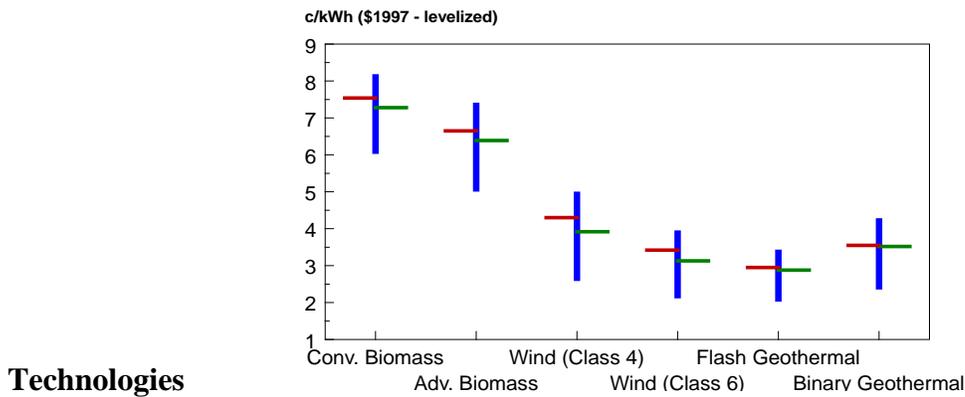


**Figure G-6**



**Figure G-7**

**Projected Cost of Energy from Renewable Energy Technologies - 2000**



Source: WRAP AP2 Renewables, “Recommendations of the Air Pollution Prevention Forum to Increase Generation of Electricity from Renewable Energy Resources,” p. I-13.

**7. Projections of Renewable Energy Goals, Energy Efficiency, and Pollution Prevention Activities**

Pursuant to 40 CFR 51.309(d)(8)(v), projections have been made by the WRAP of the short and long-term emissions reductions, visibility improvements, cost savings, and secondary benefits associated with “renewable energy goals, energy efficiency and pollution prevention activities”. A complete description of these projections is provided in the *Economic Assessment of Implementing the 10/20 Goals and Energy Efficiency Recommendations*. Projections of visibility improvements for the 16 Class I areas on the Colorado Plateau are provided in Section A. These projections include the combined effects of all measures in this SIP, including air pollution prevention programs. Although emission reductions and visibility improvements from air pollution prevention programs are expected at some level, they were not explicitly calculated because the resolution of the regional air quality modeling system is not currently sufficient to show any significant visibility changes resulting from the marginal nitrogen oxide emission reduction described above for air pollution prevention programs. Details of the modeling methodology are contained in the WRAP TSD in Chapter 8 entitled, “Assessment of Pollution Prevention.”

## **8. Programs to Achieve GCVTC Renewable Energy Goal**

Pursuant to 40 CFR 51.309(d)(8)(vi), the programs relied upon by the State of Wyoming to demonstrate progress in achieving the renewable energy goal of the GCVTC that renewable energy comprise 10 percent of the regional power needs by 2005 and 20 percent by 2015 are the environmental portfolio standard, and the utility customer funding or system benefit charge funding for renewables in addition to the other programs that are listed in Table G-1.

## **9. Future Progress Reports**

Pursuant to 40 CFR 51.309(d)(8)(vi), the State of Wyoming shall submit progress reports in 2013 and 2018, describing the state's contribution toward meeting the GCVTC renewable energy goals. This description shall be consistent with Section G.7, above. To the extent that it is not feasible for the state to meet its contribution to these goals, the state shall identify what measures were implemented to achieve its contribution, and explain why meeting its contribution was not feasible.

## **10. Applicable WRAP Reports and Documents**

Chapter 8 of the TSD Development Plan contains a regional modeling analysis related to the GCVTC 10/20 goals.

The *WRAP Policy on Renewable Energy and Energy Efficiency As Pollution Prevention Strategies For Regional Haze* summarizes three years of stakeholder and consensus-based recommendations from the AP2. The policy reaffirms the findings of the GCVTC – that energy efficiency measures and renewable energy goals could result in emissions reductions, improvements in visibility, energy costs savings, and secondary environmental and economic benefits. The WRAP policy provides a menu of individual policies and programs, various combinations of which would achieve the 10/20 renewable energy and energy efficiency goals, especially if implemented in a coordinated fashion among states and tribes. Specifically, ten recommendations are provided to promote renewable energy generation, and eight more are provided specifically for consideration by tribes. Similarly, seven recommendations are provided to promote energy efficiency, and eleven more are provided specifically for consideration by tribes. This policy will help states identify policies and programs within their state that are consistent with these recommendations, and that may be implemented or expanded to meet the 10/20 goals for regional renewable energy and energy efficiency.

Other reports from the WRAP Air Pollution Prevention Forum:

1. *Determining a State's Contribution to the GCVTC Regional Renewable Energy Goals.* A discussion paper describing an approach for establishing a state's contribution by using the total electricity consumption within each state multiplied by the RE percentage target to yield each state's contribution in terms of MWh. This method bases a state's contribution on its share of overall regional electricity demand. This would be consistent with the principle that energy production, hence visibility degradation is driven by demand. States with higher demand and

consumption, due to higher population, would have a greater share of contribution toward the RE goals. The discussion goes on to suggest an approach for crediting each state's programs against its contribution. Here, a program that induces increased RE production is counted, if the RE production occurs anywhere within the region.

2. *Recommendations of the Air Pollution Prevention Forum to Increase the Generation of Electricity from Renewable Resources* presents a comprehensive state-by-state review of current energy production, consumption and existing RE policies, definition of Renewable Energy, a menu of potential additional RE projects and a recommended portfolio of projects states are required to include in their SIPs. The report provides detailed recommendations for state and federal programs to encourage increased RE production to displace potential new conventional energy production. Conclusions regarding most cost effective RE production projects, financial analysis, and types of RE inducement policies are also included.

3. *Economic Assessment of Implementing the 10/20 Goals and Energy Efficiency Recommendations* is a report prepared by ICF Consultants for the AP2 Forum which analyzes cost, emissions and regional economic impacts of meeting the 10-20 goals and implementing the energy efficiency recommendations. The report projects that with no additional efforts to promote renewable energy, (business as usual) the high technology costs for RE will not change significantly and that significant new additions to RE capacity will not occur. The report goes on to say that load reductions from energy efficiencies will continue. The economic impacts will not occur uniformly across the region. Some states will gain, some will not. Meeting the 10/20 goals and EE will likely increase annual region-wide electricity production costs by 1%-5%, and will mostly affect new gas generating capacity, rather than existing coal and oil power production. Some emission reductions should occur, mostly CO<sub>2</sub> and NO<sub>x</sub>. The overall effect on the regional economy is very limited and may produce some gains in employment and income.

4. *Pollution Prevention Workshop for the Preparation of Section 309 SIPs and TIPs: May 20-21, 2003, Portland, OR-Session Notes* summarizes discussions among 309 states as to common understandings of the P2 requirements of Section 309, developing a baseline of the minimum information necessary for an adequate filing and how each 309 state is proposing to approach this issue. A number of agreements among the participating states were reached, as well as some specific language in this SIP. The group noted that, at a minimum, a state's Section 309 filing could center on energy/electricity. However, if a state has information on P2 programs beyond this scope, it can be included for a broader P2 filing. A paragraph-by-paragraph summary of discussions and conclusions is presented.

## **Section H. Additional Recommendations**

**Note: No revisions were made to this section.**

### **1. Other GTVTC Recommendations**

*(a) Evaluation of additional Grand Canyon Visibility Transport Commission recommendations.* Pursuant to 40 CFR 51.309(d)(9), the State of Wyoming has evaluated the “additional” recommendations of the Grand Canyon Visibility Transport Commission, to determine if any of these recommendations can be practicably included in this Implementation Plan. The State of Wyoming reviewed the Commissions’ 1996 report, “Recommendations for Improving Western Vistas”, to identify those recommendations that were not incorporated into Section 309 of the Regional Haze Rule. This evaluation is described in the Wyoming TSD.

*(b) Implementation of Additional Recommendations.* Based on the evaluation made by the State of Wyoming, as described in the Wyoming TSD, no additional measures have been identified as being practicable or necessary to demonstrate reasonable progress at this time.

### **2. Applicable WRAP Reports and Documents**

All of the GCVTC original recommendations are contained in the 1996 report *Recommendations for Improving Western Vistas*.

## Section I. Periodic Implementation Plan Revisions

### 1. Periodic Implementation Plan Revisions

(a) *Periodic Progress Reports for demonstrating Reasonable Progress.* Pursuant to 40 CFR 51.309(d)(10)(i), the State of Wyoming shall submit to EPA, as a SIP revision, periodic progress reports for the years 2013 and 2018 for the purpose of demonstrating reasonable progress in Mandatory Federal Class I areas within Wyoming, and Mandatory Federal Class I areas outside Wyoming that are affected by emissions from Wyoming. This demonstration may be conducted by the WRAP, with assistance from Wyoming, and shall address the elements listed under 40 CFR 51.309(d)(10)(i)(A) through (G), as summarized below:

- (1) Implementation status of 2003 SIP measures;
- (2) Summary of emissions reductions;
- (3) Assessment of most/least impaired days;
- (4) Analysis of emission reductions by pollutant;
- (5) Significant changes in anthropogenic emissions;
- (6) Assessment of 2003 SIP sufficiency; and
- (7) Assessment of visibility monitoring strategy.

(b) *Actions to be taken concurrent with Periodic Progress Reports.* Pursuant to 40 CFR 51.309(d)(10)(ii), the State of Wyoming shall take one of the following actions based upon information contained in each periodic progress report:

- (1) Provide a negative declaration statement to EPA saying that no implementation plan revision is needed if reasonable progress is being made, in accordance with section (a) above;
- (2) If the state finds that the Implementation Plan is inadequate to ensure reasonable progress due to emissions from outside the state, Wyoming shall notify EPA and the other contributing state(s), and initiate efforts through a regional planning process to address the emissions in question. The State of Wyoming shall identify in the next progress report the outcome of this regional planning effort, including any additional strategies that were developed to address the Plan's deficiencies;
- (3) If the state finds that the Implementation Plan is inadequate to ensure reasonable progress due to emissions from another country, Wyoming shall notify EPA and provide information on the impairment being caused by these emissions; or
- (4) If the state finds that the Implementation Plan is inadequate to ensure reasonable progress due to emissions from within Wyoming, Wyoming shall develop additional strategies to address the Plan deficiencies and revise the Implementation Plan no later than one year from the date that the progress report was due.

## **2. Applicable WRAP Reports and Documents**

None.

## **Section J. State Planning/Interstate Coordination and Tribal Implementation**

**Note: No revisions were made to this section.**

### **1. State Planning/Interstate Coordination and Tribal Implementation**

*(a) Participation in Regional Planning and Coordination.* Pursuant to 40 CFR 51.309(d)(11), the State of Wyoming has participated in regional planning and coordination with other states in developing its emission reduction strategies under 40 CFR 51.309, related to protecting the 16 Class I areas of the Colorado Plateau. This participation was through the Western Regional Air Partnership. A chart in Appendix D of this Implementation Plan illustrates the State of Wyoming's participation in regional planning and interstate coordination.

*(b) Applicability to Tribal Lands.* Pursuant to 40 CFR 51.309(d)(12), and in accordance with the Tribal Authority Rule, the Tribe whose lands are surrounded by the State of Wyoming have the option to develop a regional haze TIP for their lands to assure reasonable progress in the 16 Class I areas of the Colorado Plateau. As such, no provisions of this chapter of the Implementation Plan shall be construed as being applicable to Indian Country.

### **2. Applicable WRAP Reports and Documents**

The *WRAP Charter* sets forth the basic operating goals, principles and procedures.

## **Section K. Geographic Enhancements**

### **1. Geographic Enhancement Program**

The requirements for geographic enhancement are discussed on page 35757 in the Preamble to the 1999 regional haze rule. Geographic enhancement is a voluntary approach for addressing reasonably attributable visibility impairment (RAVI) for stationary sources, under the provisions of 40 CFR 51.302(c). RAVI is different from regional haze in that it addresses “hot spots” or situations where visibility impairment in a Class I area is reasonably attributable to a single source or small group of sources in relatively close proximity to the Class I area. The geographic enhancement approach would allow states or tribes to use the efficiencies and reduced cost provided by the market trading program to accommodate situations where RAVI needs to be addressed. Additional information is contained in the WESTAR report, *Recommendations for Making Attribution Determinations in the Context of Reasonably Attributable BART*.

*Procedure for addressing Reasonably Attributable Visibility Impairment under the Regional Haze Rule.* If the Federal Land Manager certifies impairment, the State of Wyoming will fulfill its obligations to determine attribution and if necessary determine BART for the applicable source or group of sources in accordance with Wyoming’s SIP for reasonably attributable visibility protection approved by EPA on February 15, 1989 through a notice in the Federal Register. The Wyoming SIP for reasonably attributable visibility became effective on April 17, 1989.

### **2. Applicable WRAP Reports and Documents**

See WESTAR report *Recommendations for Making Attribution Determinations in the Context of Reasonably Attributable BART*. This report recommends approaches for determining if visibility impairment is reasonably attributable to a source or group of sources, often known as reasonably attributable visibility impairment (RAVI). The report was prepared by the WESTAR Council under contract to the WRAP, and has been reviewed by the Market Trading Forum and made available for public comment on May 22, 2003.

## **Section L. Reasonable Progress for Additional Mandatory Federal Class I Areas**

### **1. Reasonable Progress for Additional Mandatory Federal Class I Areas**

*(a) Declaration for other Mandatory Federal Class I areas.* Pursuant to 40 CFR 51.309(g)(1), the State of Wyoming declares it will follow Section 309(g)(2) and (g)(3) in supplementing this regional haze Implementation Plan for the seven Mandatory Federal Class I areas not on the Colorado Plateau in the State of Wyoming. These Mandatory Federal Class I areas are as follows:

- Yellowstone National Park
- Grand Teton National Park
- North Absaroka Wilderness
- Washakie Wilderness
- Teton Wilderness
- Bridger Wilderness
- Fitzpatrick Wilderness

### **2. Applicable WRAP Reports and Documents**

None.

## **APPENDICES**

**Appendix A: Definitions**

**Appendix B: Stationary Sources**

**Appendix C: Fire Programs**

**Appendix D: Interstate and Regional Coordination**

**Appendix E: Demonstration that the SO<sub>2</sub> Milestones Provide Greater Reasonable Progress than BART**

## Appendix A: Definitions in the Regional Haze SIP

### Applicable definitions from 40 CFR 51.301:

1. **BART-eligible source** means an existing stationary facility as defined in this section.
2. **Best Available Retrofit Technology (BART)** means an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by an existing stationary facility. The emission limitation must be established, on a case-by-case basis, taking into consideration the technology available, the costs of compliance, the energy and nonair 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.
3. **Deciview** means a measurement of visibility impairment. A deciview is a haze index derived from calculated light extinction, such that uniform changes in haziness correspond to uniform incremental changes in perception across the entire range of conditions, from pristine to highly impaired. The deciview haze index is calculated based on the following equation (for the purposes of calculating deciview, the atmospheric light extinction coefficient must be calculated from aerosol measurements):

$$\text{Deciview haze index} = 10^{-1} \ln_e (b_{\text{ext}}/10 \text{ Mm}^{-1}).$$

Where  $b_{\text{ext}}$  = the atmospheric light extinction coefficient, expressed in inverse megameters ( $\text{Mm}^{-1}$ ).

4. **Department** means the Wyoming Department of Environmental Quality.
5. **Existing stationary facility** means any of the following stationary sources of air pollutants, including any reconstructed source, which was not in operation prior to August 7, 1962, and was in existence on August 7, 1977, and has the potential to emit 250 tons per year or more of any air pollutant. In determining potential to emit, fugitive emissions, to the extent quantifiable, must be counted.

Fossil-fuel fired steam electric plants of more than 250 million British thermal units per hour heat input,  
Coal cleaning plants (thermal dryers),  
Kraft pulp mills,  
Portland cement plants,  
Primary zinc smelters,  
Iron and steel mill plants,  
Primary aluminum ore reduction plants,  
Primary copper smelters,  
Municipal incinerators capable of charging more than 250 tons of refuse per day,  
Hydrofluoric, sulfuric, and nitric acid plants,  
Petroleum refineries,

Lime plants,  
Phosphate rock processing plants,  
Coke oven batteries,  
Sulfur recovery plants,  
Carbon black plants (furnace process),  
Primary lead smelters,  
Fuel conversion plants,  
Sintering plants,  
Secondary metal production facilities,  
Chemical process plants,  
Fossil-fuel boilers of more than 250 million British thermal units per hour heat input,  
Petroleum storage and transfer facilities with a capacity exceeding 300,000 barrels,  
Taconite ore processing facilities,  
Glass fiber processing plants, and  
Charcoal production facilities.

6. ***Federal Class I area*** means any Federal land that is classified or reclassified Class I.
7. ***Federal Land Manager*** means the Secretary of the department with authority over the Federal Class I area (or the Secretary's designee) or, with respect to Roosevelt-Campobello International Park, the Chairman of the Roosevelt-Campobello International Park Commission.
8. ***Federally enforceable*** means all limitations and conditions which are enforceable by the Administrator under the Clean Air Act including those requirements developed pursuant to parts 60 and 61 of this title, requirements within any applicable State Implementation Plan, and any permit requirements established pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51, 52, or 60.
9. ***Implementation plan*** means, for the purposes of this part, any State Implementation Plan, Federal Implementation Plan, or Tribal Implementation Plan.
10. ***Indian tribe or tribe*** means any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village, which is federally recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.
11. ***In existence*** means that the owner or operator has obtained all necessary preconstruction approvals or permits required by Federal, State, or local air pollution emissions and air quality laws or regulations and either has (1) begun, or caused to begin, a continuous program of physical on-site construction of the facility or (2) entered into binding agreements or contractual obligations, which cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of construction of the facility to be completed in a reasonable time.

12. ***Least impaired days*** means the average visibility impairment (measured in deciviews) for the twenty percent of monitored days in a calendar year with the lowest amount of visibility impairment.
13. ***Major stationary source and major modification*** mean major stationary source and major modification, respectively, as defined in 40 CFR 51.166.
14. ***Mandatory Class I Federal Area*** means any area identified in part 81, subpart D of this title.
15. ***Most impaired days*** means the average visibility impairment (measured in deciviews) for the twenty percent of monitored days in a calendar year with the highest amount of visibility impairment.
16. ***Natural conditions*** includes naturally occurring phenomena that reduce visibility as measured in terms of light extinction, visual range, contrast, or coloration.
17. ***Potential to emit*** means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.
18. ***Reasonably attributable*** means attributable by visual observation or any other technique the State deems appropriate.
19. ***Reasonably attributable visibility impairment*** means visibility impairment that is caused by the emission of air pollutants from one, or a small number of sources.
20. ***Regional haze*** means visibility impairment that is caused by the emission of air pollutants from numerous sources located over a wide geographic area. Such sources include, but are not limited to, major and minor stationary sources, mobile sources, and area sources.
21. ***State*** means “State” as defined in section 302(d) of the CAA.
22. ***Stationary Source*** means any building, structure, facility, or installation which emits or may emit any air pollutant.
23. ***Visibility impairment*** means any humanly perceptible change in visibility (light extinction, visual range, contrast, coloration) from that which would have existed under natural conditions.

### **Definitions from 40 CFR 51.309:**

1. **16 Class I areas** means the following mandatory Class I Federal areas on the Colorado Plateau: Grand Canyon National Park, Sycamore Canyon Wilderness, Petrified Forest National Park, Mount Baldy Wilderness, San Pedro Parks Wilderness, Mesa Verde National Park, Weminuche Wilderness, Black Canyon of the Gunnison Wilderness, West Elk Wilderness, Maroon Bells Wilderness, Flat Tops Wilderness, Arches National Park, Canyonlands National Park, Capitol Reef National Park, Bryce Canyon National Park, and Zion National Park.
2. **Transport Region State** means one of the States that is included within the Transport Region addressed by the Grand Canyon Visibility Transport Commission (Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, and Wyoming).
3. **Commission Report** means the report of the Grand Canyon Visibility Transport Commission entitled "Recommendations for Improving Western Vistas," dated June 10, 1996.
4. **Fire** means wildfire, wildland fire (including prescribed natural fire), prescribed fire, and agricultural burning conducted and occurring on Federal, State, and private wildlands and farmlands.
5. **Milestone** means the maximum level of annual regional sulfur dioxide emissions for a given year, assessed annually consistent with paragraph (h)(2) of this section beginning in the year 2003.
6. **Mobile Source Emission Budget** means the lowest level of VOC, NO<sub>x</sub>, SO<sub>2</sub>, elemental and organic carbon, and fine particles which are projected to occur in any area within the transport region from which mobile source emissions are determined to contribute significantly to visibility impairment in any of the 16 Class I areas.
7. **Geographic enhancement** means a method, procedure, or process to allow a broad regional strategy, such as a milestone or backstop market trading program designed to achieve greater reasonable progress than BART for regional haze, to accommodate BART for reasonably attributable impairment.

### **Definitions for the SO<sub>2</sub> Milestones and Backstop Trading Program, Section C**

1. **Account Certificate of Representation** means for a WEB Source the completed and signed submission required to designate an Account Representative for a WEB source who is authorized to represent the owners and operators of the WEB source with regard to matters under the WEB Trading Program and for a general account, the individual who is authorized to represent the persons having an ownership interest with respect to allowances in the general account with regard to matters concerning the general account.
2. **Account Representative** means the individual who is authorized through an Account Certificate of Representation to represent owners and operators of the WEB source with

regard to matters under the WEB Trading Program (including, for example, to transfer and otherwise manage allowances and certify all submissions to the Allowance Tracking System and the emissions tracking database for the purposes of the Rule) or, for a general account, who is authorized through an Account Certificate of Representation to represent the persons having an ownership interest in allowances in the general account with regard to matters concerning the general account.

3. **Act** means the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq.*
4. **Actual emissions** means, for the purpose of this Implementation Plan, total annual SO<sub>2</sub> emissions as reported to EPA, and revised as necessary by, state, tribes, or EPA, under 40 CFR part 75 or to the authorized permitting agency in accordance with the requirements of the Rule or Title V of the Clean Air Act, as applicable.
5. **Allocate** means to assign allowances to a WEB source through Part C1 of Section C of this Implementation Plan.
6. **Allowance** means the limited authorization under the WEB Trading Program to emit one ton of SO<sub>2</sub> during a specified control period or any control period thereafter subject to the terms and conditions for use of unused allowances as established by the Rule.
7. **Allowance limitation** means the tonnage of SO<sub>2</sub> emissions authorized by the allowances available for compliance deduction for a WEB source for a control period under Section 2(k)(i) of Chapter 14 on the allowance transfer deadline for that control period.
8. **Allowance Tracking System** means the system developed by Wyoming where allowances under the WEB Trading Program are recorded, held, transferred and deducted.
9. **Allowance Tracking System account** means an account in the Allowance Tracking System established for purposes of recording, holding, transferring, and deducting allowances.
10. **Compliance account** means an account established in the Allowance Tracking System under Section 2(g)(i) of Chapter 14 for the purpose of recording allowances that a WEB source might hold to demonstrate compliance with its allowance limitation.
11. **Control period** means the period beginning January 1 of each year and ending on December 31 of the same year, inclusive.
12. **Emissions tracking database** means the central database where SO<sub>2</sub> emissions for WEB sources as recorded and reported in accordance with Chapter 14 are tracked to determine compliance with allowance limitations.
13. **EPA Administrator** means the Administrator of the United States Environmental Protection Agency or the Administrator's duly authorized representative.

14. **Existing source** means a stationary source that commenced operation before the program trigger date.
15. **Floor allocation** means the amount of allowances set by Wyoming in accordance with this Plan that represents the minimum necessary for a source to operate under stringent control assumptions.
16. **General account** means an account established in the Allowance Tracking System under Section 2(g)(i) of Chapter 14 for the purpose of recording allowances held by a person that are not to be used to show compliance with an allowance limitation.
17. **Milestone** means the maximum level of stationary source regional sulfur dioxide emissions for each year from 2003 to 2018, established according to the procedures in Part A of Section C of this Implementation Plan.
18. **New WEB Source** means a WEB source that commenced operation on or after the program trigger date.
19. **New Source Set-aside** means a pool of allowances that are available for allocation to new sources in accordance with the provisions of Part C1.3 of Section C of this Implementation Plan.
20. **Opt-in** means to choose to participate in the WEB Trading Program by following the procedures in Section 2(c) of Chapter 14 and to comply with the terms and conditions of Chapter 14.
21. **Program trigger date** means the date that Wyoming determines that the WEB Trading Program has been triggered in accordance with the provisions of Part A2 of Section C of this Implementation Plan.
22. **Reducible allocation** means the amount of allowances set by Wyoming in accordance with Part C1.1(b)(9) of Section C of this Plan that represents, for each source, emissions in excess of the floor allocation that shall be reduced over time as the regional milestone is decreased.
23. **Retired source** means a WEB source that has received a retired source exemption as provided in Section 2(c) of Chapter 14.
24. **Special Reserve Compliance Account** means an account established in the allowance tracking system under Chapter 14, Section 2(g)(i) for the purpose of recording allowances that a WEB source might hold to demonstrate compliance with its allowance limitation for emission units that are monitored for sulfur dioxide in accordance with Chapter 14, Section 2(h)(i)(B).
25. **Stationary source** means any building, structure, facility or installation that emits or may emit any air pollutant subject to regulation under the Clean Air Act.

26. **Ton** means 2,000 pounds and, for any control period, any fraction of a ton equaling 1,000 pounds or more shall be treated as one ton and any fraction of a ton equaling less than 1,000 pounds shall be treated as zero tons.
27. **Tracking System Administrator** means the person designated by Wyoming as the administrator of the WEB Allowance Tracking System and the emission tracking database.
28. **Tribal Set-Aside** means a 2,500-ton SO<sub>2</sub> WEB allowance allocated to tribes on an annual basis. The tribes will decide how to distribute the allowances in the set-aside among tribes in the region. The set-aside is intended to ensure equitable treatment for tribal economies and to prevent barriers to economic development.
29. **Trigger** refers to the activation of the WEB Trading Program for SO<sub>2</sub> in accordance with Part A of Section C of this Implementation Plan.
30. **Unit** means a stationary boiler, combustion turbine or combined cycle system.
31. **WEB source** means a stationary source that meets the applicability requirements of Chapter 14, Section 2.
32. **Western Backstop SO<sub>2</sub> Trading Program (“WEB Trading Program”)** refers to the Rule that shall be triggered as a backstop in accordance with the provisions in Part A of Section C of this Implementation Plan to ensure that regional SO<sub>2</sub> emissions are reduced.
33. **Western Regional Air Partnership (WRAP)** means the collaborative effort of tribal governments, state governments, and federal agencies to promote and monitor implementation of recommendations from the Grand Canyon Visibility Transport Commission authorized under Section 169B(f) of the Act, and to address other common Western regional air quality issues.

## **Appendix B: Stationary Sources**

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
STANDARDS AND REGULATIONS  
CHAPTER 14  
EMISSION TRADING PROGRAM REGULATIONS

Section 2. Western backstop sulfur dioxide trading program.

(a) *Definitions.*

The following additional definitions apply to Chapter 14, Section 2.

**“Account Representative”** means the individual who is authorized through a Certificate to represent owners and operators of the WEB source with regard to matters under the WEB Trading Program or, for a general account, who is authorized through a Certificate to represent the persons having an ownership interest in allowances in the general account with regard to matters concerning the general account.

**“Act”** means the federal Clean Air Act, as amended 42 U.S.C. 7401, *et seq.*

**“Actual Emissions”** means total annual sulfur dioxide emissions determined in accordance with Section 2(h) of this Chapter or determined in accordance with Section 3 of this Chapter for sources that are not subject to Section 2(h) of this Chapter.

**“Allocate”** means to assign allowances to a WEB source in accordance with Part C1 of Section C of the Wyoming Regional Haze SIP (WYRHSIP).

**“Allowance”** means the limited authorization under the WEB Trading Program to emit one ton of sulfur dioxide during a specified control period or any control period thereafter subject to the terms and conditions for use of unused allowances as established by Section 2 of this Chapter.

**“Allowance limitation”** means the tonnage of sulfur dioxide emissions authorized by the allowances available for compliance deduction for a WEB source under Section 2(k) of this Chapter on the allowance transfer deadline for each control period.

**“Allowance Tracking System”** means the system where allowances under the WEB Trading Program are recorded, held, transferred and deducted.

**“Allowance Tracking System account”** means an account in the Allowance Tracking System established for purposes of recording, holding, transferring, and deducting allowances.

**“Allowance transfer deadline”** means the deadline established in Section 2(i)(ii) of this Chapter when allowances must be submitted for recording in a WEB source’s compliance account in order to demonstrate compliance for that control period.

**“Best Available Retrofit Technology (BART)”** means that emission reduction control device, facility, method, or system, used to achieve the best continuous emission reduction for each pollutant emitted by an existing stationary facility. The emission limitation shall be established on a case-by-case basis taking into consideration the technology available, the costs of compliance, the energy and 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.

**“Certificate”** means the completed and signed submission required to designate an account representative for a WEB source or an account representative for a general account.

**“Compliance account”** means an account established in the Allowance Tracking System under Section 2(g)(i) of this Chapter for the purpose of recording allowances that a WEB source might hold to demonstrate compliance with its allowance limitation.

**“Compliance certification”** means a submission to the Department by the account representative as required under Section 2(k)(ii) of this Chapter to report a WEB source’s compliance or noncompliance with Chapter 14, Section 2.

**“Control period”** means the period beginning January 1 of each year and ending on December 31 of the same year, inclusive.

**“Emissions tracking database”** means the central database where sulfur dioxide emissions for WEB sources as recorded and reported in accordance with Section 2 of this Chapter are tracked to determine compliance with allowance limitations.

**“Emission unit”** means any part of a stationary source that emits or would have the potential to emit any pollutant subject to regulations under the Clean Air Act.

**“Existing source”** means a stationary source that commenced operation before the program trigger date.

**“General account”** means an account established in the Allowance Tracking System under Section 2(g) of this Chapter for the purpose of recording allowances held by a person that are not to be used to show compliance with an allowance limitation.

**“Milestone”** means the maximum level of stationary source regional sulfur dioxide emissions for each year from 2003 to 2018, established according to the procedures in Part A1 of Section C of the WYRHSIP.

**“New WEB Source”** means a WEB source that commenced operation on or after the program trigger date.

**“New Source Set-aside”** means a pool of allowances that are available for allocation to new sources in accordance with the provisions of Part C1.3 of Section C of the WYRHSIP.

**“Owner or Operator”** means any person who is an owner or who operates, controls or supervises a WEB source, and includes but is not limited to any holding company, utility system or plant manager.

**“Potential to emit”** means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA Administrator.

**“Program trigger date”** means the date that the Department determines that the WEB Trading Program has been triggered in accordance with the provisions of Part A3 of Section C of the WYRHSIP.

**“Program trigger years”** means the years shown in Part A1 of Section C of the WYRHSIP, Table 1, column 3 for the applicable milestone if the WEB Trading Program is triggered as described in Part A3 of Section C of the WYRHSIP.

**“Renewable Energy Resource”** means a resource that generates electricity by non-nuclear and non-fossil technologies that results in low or no air emissions. The term includes electricity generated by wind energy technologies; solar photovoltaic and solar thermal technologies; geothermal technologies; technologies based on landfill gas and biomass sources, and new low-impact hydropower that meets the Low-Impact Hydropower Institute criteria. Biomass includes agricultural, food and wood wastes. The term does not include pumped storage or biomass from municipal solid waste, black liquor, or treated wood.

**“Retired source”** means a WEB source that has received a retired source exemption as provided in Section 2(c)(iv) of this Chapter. Any retired source resuming operations under Section 2(c)(iv) of this Chapter, must submit its exemption as part of its registration materials.

**“Serial number”** means, when referring to allowances, the unique identification number assigned to each allowance by the TSA, in accordance with Section 2(f)(ii) of this Chapter.

**“Special Reserve Compliance Account”** means an account established in the allowance tracking system under Section 2(g)(i) for the purpose of recording allowances that a WEB source might hold to demonstrate compliance with its allowance limitation for emission units that are monitored for SO<sub>2</sub> in accordance with Section 2(h)(i)(B).

**“Stationary source”** means any building, structure, facility or installation that emits or may emit any air pollutant subject to regulation under the Clean Air Act.

**“Submit”** means sent to the appropriate authority under the signature of the account representative. For purposes of determining when something is submitted, an official U.S. Postal Service postmark, or equivalent electronic time stamp, shall establish the date of submittal.

**“Sulfur dioxide emitting unit”** means any equipment that is located at a WEB source and that emits sulfur dioxide.

**“Ton”** means 2000 pounds and any fraction of a ton equaling 1000 pounds or more shall be treated as one ton and any fraction of a ton equaling less than 1000 pounds shall be treated as zero tons.

**“Tracking System Administrator (TSA)”** means the person designated by the Department as the administrator of the Allowance Tracking System and the emission tracking database.

**“WEB source”** means a stationary Western Backstop (WEB) source that meets the applicability requirements of Section 2(c) of this Chapter.

**“WEB Trading Program”** means Section 2 of this Chapter, triggered as a backstop in accordance with the provisions in Part A3 of Section C of the WYRHSIP, if necessary, to ensure that regional sulfur dioxide emissions are reduced.

**“WYRHSIP”** means the Wyoming Regional Haze State Implementation Plan.

**(b) WEB Trading Program Trigger.**

(i) Except as provided in (ii), the provisions of Section 2 of this Chapter shall apply on the program trigger date that is established in accordance with the procedures in Part A3 of Section C of the WYRHSIP.

(ii) Special Penalty Provisions for 2018 Milestone, Section 2(l) of this Chapter, shall apply on January 1, 2018 and shall remain effective until the provisions of Section 2(l) of this Chapter have been fully implemented.

**(c) WEB Trading Program Applicability.**

(i) General Applicability. Section 2 of this Chapter applies to any stationary source or group of stationary sources that are located on one or more contiguous or adjacent properties and which are under the control of the same person or persons under common control, belonging to the same industrial grouping, and that are described in paragraphs (A) and (B) of this subsection. A stationary source or group of stationary sources shall be considered part of a single industrial grouping if all of the pollutant emitting activities at such source or group of sources on contiguous or adjacent properties belong to the same Major Group (i.e., all have the same two-digit code) as described in the Standard Industrial Classification Manual, 1987.

(A) All stationary sources that have actual sulfur dioxide emissions of 100 tons or more per year in the Program Trigger Years or any subsequent year. The fugitive emissions of a stationary source shall not be considered in determining whether it is subject to Section 2 of this Chapter unless the source belongs to one of the following categories of stationary source:

- (I) Coal cleaning plants (with thermal dryers);
- (II) Kraft pulp mills;
- (III) Portland cement plants;
- (IV) Primary zinc smelters;
- (V) Iron and steel mills;
- (VI) Primary aluminum ore reduction plants;
- (VII) Primary copper smelters;
- (VIII) Municipal incinerators capable of charging more than 250 tons of refuse per day;
- (IX) Hydrofluoric, sulfuric, or nitric acid plants;
- (X) Petroleum refineries;
- (XI) Lime plants;
- (XII) Phosphate rock processing plants;
- (XIII) Coke oven batteries;
- (XIV) Sulfur recovery plants;
- (XV) Carbon black plants (furnace process);
- (XVI) Primary lead smelters;
- (XVII) Fuel conversion plants;
- (XVIII) Sintering plants;
- (XIX) Secondary metal production plants;
- (XX) Chemical process plants;
- (XXI) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;

(XXII) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;

(XXIII) Taconite ore processing plants;

(XXIV) Glass fiber processing plants;

(XXV) Charcoal production plants;

(XXVI) Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input; or

(XXVII) Any other stationary source category, which as of August 7, 1980 is being regulated under Section 111 or 112 of the Clean Air Act.

(B) A new source that begins operation after the program trigger date and has the potential to emit 100 tons or more of sulfur dioxide per year.

(ii) The Department may determine on a case-by-case basis, with concurrence from the EPA Administrator, that a stationary source defined in 2(c)(i)(A) above that has not previously met the applicability requirements of (i) is not subject to Chapter 14, Section 2 if the stationary source had actual sulfur dioxide emissions of 100 tons or more in a single year and in each of the previous five years had actual sulfur dioxide emissions of less than 100 tons per year, and:

(A) (I) The emissions increase was due to a temporary emission increase that was caused by a sudden, infrequent failure of air pollution control equipment, or process equipment, or a failure to operate in a normal or usual manner, and

(II) The stationary source has corrected the failure of air pollution equipment, process equipment, or process by the time of the Department's determination; or

(B) The stationary source had to switch fuels or feedstocks on a temporary basis and as a result of an emergency situation or unique and unusual circumstances besides the cost of such fuels or feedstocks.

(iii) Duration of Applicability. Except as provided for in Section 2(c)(iv) of this Chapter, once a stationary source is subject to Section 2 of this Chapter, it will remain subject to Chapter 14, Section 2 every year thereafter.

(iv) Retired Source Exemption.

(A) Application. Any WEB source that is permanently retired shall apply for a retired source exemption. The WEB source may only be considered permanently retired if all sulfur dioxide emitting units at the source are permanently retired. The application shall contain the following information:

(I) Identification of the WEB source, including plant name and an appropriate identification code in a format specified by the Department.

(II) Name of Account Representative.

(III) Description of the status of the WEB source, including the date that the WEB source was permanently retired.

(IV) Signed certification that the WEB source is permanently retired and will comply with the requirements of Section 2(c)(iv) of this-Chapter.

(V) Verification that the WEB source has a general account where any unused allowances or future allocations will be recorded.

(B) Notice. The retired source exemption becomes effective when the Department notifies the WEB source that the retired source exemption has been granted.

(C) Responsibilities of Retired Sources.

(I) A retired source shall be exempt from Section 2(h) and Section 2(k) of this Chapter, except as provided below.

(II) A retired source shall not emit any sulfur dioxide after the date the retired source exemption is issued.

(III) A WEB source shall submit sulfur dioxide emissions reports, as required by Section 2(h)(viii) of this Chapter for any time period the source was operating prior to the effective date of the retired source exemption. The retired source shall be subject to the compliance provisions of Section 2(k) of this Chapter, including the requirement to hold allowances in the source's compliance account to cover all sulfur dioxide emissions prior to the date the source was permanently retired.

(IV) A retired source that is still in existence but no longer emitting sulfur dioxide shall, for a period of five years from the date the records are created, retain records demonstrating the effective date of the retired source exemption for purposes of Chapter 14, Section 2.

(D) Resumption of Operations.

(I) Should a retired source desire to resume operation, the retired source must submit registration materials as follows:

(1.) If the source is required to obtain a construction permit under Chapter 6, Section 2 or an operating permit under Chapter 6, Section 3 prior to resuming operation, then registration information as described in Section 2(e)(i) of this Chapter and a copy

of the retired source exemption must be submitted with the notice of intent under Chapter 6, Section 2 or the operating permit application required under Chapter 6, Section 3;

(2.) If the source does not meet the criteria of (1.), then registration information as described in Section 2(e)(i) of this Chapter and a copy of the retired source exemption must be submitted to the Department at least ninety (90) days prior to resumption of operation.

(II) The retired source exemption shall automatically expire on the day the retired source resumes operation.

(E) Loss of Future Allowances. A WEB source that is permanently retired and that does not apply to the Department for a retired source exemption within ninety (90) days of the date that the source is permanently retired shall forfeit any unused and future allowances. The abandoned allowances shall be retired directly by the TSA.

***(d) Account Representative for WEB Sources.***

(i) Each WEB source must identify one account representative and may also identify an alternate account representative who may act on behalf of the account representative. Any representation, action, inaction or submission by the alternate account representative will be deemed to be a representation, action, inaction or submission by the account representative.

***(ii) Identification and Certification of an Account Representative.***

(A) The account representative and any alternate account representative shall be appointed by an agreement that makes the representations, actions, inactions or submissions of the account representative and any alternate binding on the owners and operators of the WEB source.

(B) The account representative shall submit to the Department and the TSA a signed and dated Certificate that contains the following elements:

(I) Identification of the WEB source by plant name, state and an appropriate identification code in a format specified by the Department;

(II) The name, address, e-mail (if available), telephone and facsimile number of the account representative and any alternate;

(III) A list of owners and operators of the WEB source;

(IV) Information to be part of the emission tracking system database in accordance with Part A2.1 of Section C of the WYRHSIP. The specific data elements shall be as specified by the State of Wyoming to be consistent with the data system structure, and may include basic facility information that may appear in other reports and notices

submitted by the WEB source, such as county location, industrial classification codes, and similar general facility information.

(V) The following certification statement: “I certify that I was selected as the account representative or alternate account representative, as applicable, by an agreement binding on the owners and operators of the WEB source. I certify that I have all the necessary authority to carry out my duties and responsibilities under the WEB Trading Program on behalf of the owners and operators of the WEB source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions and by any decision or order issued to me by the Department regarding the WEB Trading Program.”

(C) Upon receipt by the Department of the complete Certificate, the account representative and any alternate account representative represents and, by his or her representations, actions, inactions, or submissions, legally binds each owner and operator of the WEB source in all matters pertaining to the WEB Trading Program. The owners and operators shall be bound by any decision or order issued by the Department regarding the WEB Trading Program.

(D) No WEB Allowance Tracking System account shall be established for the WEB source until the TSA has received a complete Certificate. Once the account is established, the account representative shall make all submissions concerning the account, including the deduction or transfer of allowances.

*(iii)* Responsibilities.

(A) The responsibilities of the account representative include, but are not limited to, the transferring of allowances and the submission of monitoring plans, registrations, certification applications, sulfur dioxide emissions data and compliance reports as required by Section 2 of this Chapter, and representing the source in all matters pertaining to the WEB Trading Program.

(B) Each submission under this program shall be signed and certified by the account representative for the WEB source. Each submission shall include the following truth and accuracy certification statement by the account representative:

(I) “I am authorized to make this submission on behalf of the owners and operators of the WEB source for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.”

*(iv)* Changing the Account Representative or Owners and Operators.

(A) Changes to the Account Representative or the alternate Account Representative.

The account representative or alternate account representative may be changed at any time by sending a complete superseding Certificate to the Department and the TSA under Section 2(d)(ii) of this Chapter, with the change taking effect upon receipt of such Certificate by the TSA. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous account representative or alternate prior to the time and date when the TSA receives the superseding Certificate shall be binding on the new account representative and the owners and operators of the WEB source.

(B) Changes in Owners and Operators.

(I) Within thirty (30) days of any change in the owners and operators of the WEB source, including the addition of a new owner or operator, the account representative shall submit a revised Certificate amending the list of owners and operators to include such change.

(II) In the event a new owner or operator of a WEB source is not included in the list of owners and operators submitted in the Certificate, such new owner or operator shall be deemed to be subject to and bound by the Certificate, the representations, actions, inactions, and submissions of the account representative of the WEB source, and the decisions, orders, actions, and inactions of the Department as if the new owner or operator were included in such list.

***(e) Registration.***

***(i) Deadlines.***

(A) Each source that is a WEB source on or before the program trigger date shall register by submitting the initial Certificate required in Section 2(d)(ii) of this Chapter to the Department no later than 180 days after the program trigger date.

(B) Any existing source that becomes a WEB source after the program trigger date shall register by submitting the initial Certificate required in Section 2(d)(ii) of this Chapter to the Department by September 30 of the year following the inventory year in which the source exceeded the emission threshold.

(C) Any new WEB source shall register by submitting the initial Certificate required in Section 2(d)(ii) of this Chapter to the Department prior to the commencement of operation.

***(ii) Integration Into Permits.***

(A) Any allocation, transfer or deduction of allowance to or from the compliance account of a WEB source shall not require revision of the WEB source's operating permit under Chapter 6, Section 3.

(B) Any WEB source that is not required to have a permit under Chapter 6, Section 2 at any time after Chapter 14 becomes effective must at all times possess a permit that includes the requirements of Chapter 14. If it does not possess a Title V permit under Chapter 6, Section 3, it may do so by obtaining or modifying a permit under Chapter 6, Section 2 to incorporate the requirements of Chapter 14. The source must at all times possess a permit that includes these requirements.

***(f) Allowance Allocations.***

(i) The TSA will record the allowances for each WEB source in the compliance account for the WEB source once the allowances are allocated by the Department under Part C1 of Section C of the WYRHSIP. If applicable, the TSA will record a portion of the sulfur dioxide allowances for a WEB source in a special reserve compliance account to account for any allowances to be held in accordance with Section 2(h)(i)(B) of this Chapter.

(ii) The TSA will assign a serial number to each allowance in accordance with Part C2 of Section C of the WYRHSIP.

(iii) All allowances shall be allocated, recorded, transferred, or used as whole allowances. To determine the number of whole allowances, the number of allowances shall be rounded down for decimals less than 0.50 and rounded up for decimals of 0.50 or greater.

(iv) An allowance is not a property right, and is a limited authorization to emit one ton of sulfur dioxide valid only for the purpose of meeting the requirements of Section 2 of this Chapter. No provision of the WEB Trading Program or other law should be construed to limit the authority of the Department to terminate or limit such authorization.

(v) Early Reduction Bonus Allocation. Any non-utility WEB source that installs new control technology and that reduces its permitted annual sulfur dioxide emissions to a level that is below the floor level allocation established for that source in Part C1 of Section C of the WYRHSIP or any utility that reduces its permitted annual sulfur dioxide emissions to a level that is below best available control technology may apply to the Department for an early reduction bonus allocation. The bonus allocation shall be available for reductions that occur between 2008 and the program trigger year. The application must be submitted no later than ninety (90) days after the program trigger date. Any WEB source that applies and receives early reduction bonus allocations must retain the records referenced below for a minimum of five (5) years after the early reduction bonus allowance is certified in accordance with Part C1.1(a)(3) of Section C of the WYRHSIP. The application for an early reduction bonus allocation must contain the following information:

(A) Copies of all construction permits, operating permits or other enforceable documents that include annual sulfur dioxide emissions limits for the WEB source

during the period the WEB source qualifies for an early reduction credit. Such permits or enforceable documents must require monitoring for sulfur dioxide emissions that meet the requirements in Section 2(h) of this Chapter.

(B) Demonstration that the floor level established for the source in accordance with Part C1.1(a)(2) of Section C of the WYRHSIP for non-utilities or best available control technology for utilities was calculated using data that are consistent with monitoring methods specified in Section 2(h)(i)(A) of this Chapter. If needed, the demonstration shall include a new floor level calculation that is consistent with the monitoring methodology in Section 2(h) of this Chapter.

(vi) Request for allowances for new WEB sources or modified WEB Sources.

(A) A new WEB source may apply to the Department for an allocation from the new source set-aside, as outlined in Part C1.3 of Section C of the WYRHSIP.

(I) A new WEB source is eligible for an annual floor allocation equal to the lower of the permitted annual sulfur dioxide emission limit for that source, or sulfur dioxide annual emissions calculated based on a level of control equivalent to best available control technology (BACT) and assuming 100 percent utilization of the WEB source, beginning with the first full calendar year of operation.

(B) An existing WEB source that has increased production capacity through a new construction permit issued under Chapter 6, Section 2 may apply to the Department for an allocation from the new source set-aside, as outlined in Part C1.3 of Section C of the WYRHSIP. An existing WEB source is eligible for an annual allocation equal to:

(I) The permitted annual sulfur dioxide emission limit for a new unit; or

(II) The permitted annual sulfur dioxide emission increase for the WEB source due to the replacement of an existing unit with a new unit or the modification of an existing unit that increased production capacity of the WEB source.

(C) A source that has received a retired source exemption under Chapter 14, Section 2(c)(iv) is not eligible for an allocation from the new source set-aside.

(D) The application for an allocation from the new source set-aside must contain the following:

(I) For existing WEB sources under Section 2(f)(vi)(B)(II) of this Chapter, documentation of the production capacity of the source before and after the new permit;

(II) For new WEB sources or a new unit under Section 2(f)(vi)(B)(I), documentation of the actual date of the commencement of operation and a copy of the permit issued under Chapter 6, Section 2.

**(g) Establishment of Accounts.**

**(i) Allowance Tracking System Accounts.** All WEB sources are required to open a compliance account. In addition, if a WEB source conducts monitoring under Section 2(h)(i)(B) of this Chapter, the WEB source shall open a special reserve compliance account for allowances associated with units monitored under those provisions. The WEB source and account representative shall have no rights to transfer allowances in or out of such special reserve compliance account. The State of Wyoming shall allocate allowances to the account in accordance with Section 2(h)(i)(B)(V) of this Chapter and all such allowances for each control period shall be retired each year for compliance in accordance with Section 2(k) of this Chapter. Any person may open a general account for holding and transferring allowances. To open either type of account, an application that contains the following information shall be submitted:

(A) The name, mailing address, e-mail address, telephone number and facsimile number of the account representative. For a compliance account, include a copy of the Certificate for the account representative and any alternate as required in Section 2(d)(ii)(B) of this Chapter. For a general account, include the Certificate for the account representative and any alternate as required in (iii)(B).

(B) The WEB source or organization name;

(C) The type of account to be opened; and

(D) A signed certification of truth and accuracy by the account representative according to Section 2(d)(iii)(B) of this Chapter for compliance accounts and for general accounts, certification of truth and accuracy by the account representative according to (iv).

**(ii) Account Representative for General Accounts.** For a general account, one account representative must be identified and an alternate account representative may be identified and may act on behalf of the account representative. Any representation, action, inaction or submission by the alternate account representative will be deemed to be a representation, action, inaction or submission by the account representative.

**(iii) Identification and Certification of an Account Representative for General Accounts.**

(A) The account representative shall be appointed by an agreement that makes the representations, actions, inactions or submissions of the account representative binding on all persons who have an ownership interest with respect to allowances held in the general account.

(B) The account representative shall submit to the Department and the TSA a signed and dated Certificate that contains the following elements:

(I) The name, address, e-mail (if available), telephone and facsimile number of the account representative and any alternate;

(II) The organization name;

(III) The following certification statement:

“I certify that I was selected as the account representative or alternate account representative, as applicable, by an agreement binding on all persons who have an ownership interest in allowances in the general account with regard to matters concerning the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the WEB Trading Program on behalf of said persons and that each such person shall be fully bound by my representations, actions, inactions, or submissions.”

(C) Upon receipt by the Department of the complete Certificate, the account representative represents and, by his or her representations, actions, inactions, or submissions, legally binds each person who has an ownership interest in allowances held in the general account with regard in all matters concerning the general account. Such persons shall be bound by any decision or order issued by the Department.

(D) No WEB Allowance Tracking System general account shall be established until the TSA has received a complete Certificate. Once the account is established, the account representative shall make all submissions concerning the account, including the deduction or transfer of allowances.

(iv) Requirements and Responsibilities. Each submission for the general account shall be signed and certified by the account representative for the general account. Each submission shall include the following truth and accuracy certification statement by the account representative:

(A) “I am authorized to make this submission on behalf of all persons who have an ownership interest in allowances held in the general account. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.”

(v) Changing the Account Representative. The account representative or alternate account representative may be changed at any time by sending a complete superseding Certificate to the Department and the TSA under (iii)(B), with the change taking effect upon receipt of such Certificate by the Department. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous account representative or alternate prior to the time and date when the Department receives the superseding Certificate

shall be binding on the new account representative and all persons having ownership interest with respect to allowances held in the general account.

(vi) Changes to the Account. Any change to the information required in the application for an existing account under (i) shall require a revision of the application.

**(h) Monitoring, Recordkeeping and Reporting.**

**(i) General Requirements on Monitoring Methods.**

(A) For each sulfur dioxide emitting unit at a WEB source the WEB source shall comply with the following, as applicable, to monitor and record sulfur dioxide mass emissions:

(I) If a unit is subject to 40 CFR part 75 under a requirement separate from the WEB Trading Program, the unit shall meet the requirements contained in part 75 with respect to monitoring, recording and reporting sulfur dioxide mass emissions.

(II) If a unit is not subject to 40 CFR part 75 under a requirement separate from the WEB Trading Program, a unit shall use one of the following monitoring methods, as applicable:

(1.) A continuous emission monitoring system (CEMS) for sulfur dioxide and flow that complies with all applicable monitoring provisions in 40 CFR part 75;

(2.) If the unit is a gas- or oil-fired combustion device, the excepted monitoring methodology in Appendix D to 40 CFR part 75, or, if applicable, the low mass emissions (LME) provisions (with respect to sulfur dioxide mass emissions only) of section 75.19 of 40 CFR part 75;

(3.) One of the optional WEB protocols, if applicable, in Appendix A to Chapter 14; or

(4.) A petition for site-specific monitoring that the source submits for approval by the State of Wyoming and approval by the U.S. Environmental Protection Agency in accordance with Section 2(h)(ix) of this Chapter (relating to petitions).

(III) A permanently retired unit shall not be required to monitor under this Section if such unit was permanently retired and had no emissions for the entire period and the account representative certifies in accordance with Section 2(k)(ii) of this Chapter that these conditions were met. In the event that a permanently retired unit recommences operation, the WEB source shall meet the requirements of this Section 2(h) in the same manner as if the unit was a new unit.

(B) Notwithstanding paragraph (A) of this Section, the WEB source with a unit that meets one of the conditions of paragraph (B)(I) may submit a request to the Department to have the provisions of this paragraph (B) apply to that unit.

(I) Any of the following units may implement this paragraph (B):

(1.) Any smelting operation where all of the emissions from the operation are not ducted to a stack;

(2.) Any flare, except to the extent such flares are used as a fuel gas combustion device at a petroleum refinery; or

(3.) Any other type of unit without add-on sulfur dioxide control equipment if the unit belongs to one of the following source categories: cement kilns, pulp and paper recovery furnaces, lime kilns, or glass manufacturing.

(II) For each unit covered by this paragraph (B), the account representative shall submit a notice to request that this paragraph (B) apply to one or more sulfur dioxide emitting units at a WEB source. The notice shall be submitted in accordance with the compliance dates specified in Section 2(h)(vi)(A) of this Chapter, and shall include the following information in a format specified by the State of Wyoming with such additional, related information as may be requested:

(1.) A list of all units at the WEB source that identifies which of the units are to be covered by this paragraph (B); and

(2.) An identification of any such units that are permanently retired.

(III) For each new unit at an existing WEB source for which the WEB source seeks to comply with this paragraph (B) and for which the account representative applies for an allocation under the new source set-aside provisions of Section 2(f)(vi) of this Chapter, the account representative shall submit a modified notice under paragraph (B)(II) that includes such new sulfur dioxide emitting unit(s). The modified request shall be submitted in accordance with the compliance dates in Section 2(h)(vi)(A) of this Chapter, but no later than the date on which a request is submitted under Section 2(f)(vi) of this Chapter for allocations from the set-aside.

(IV) The account representative for a WEB source shall submit an annual emissions statement for each unit under this paragraph (B) in accordance with Section 2(h)(viii) of this Chapter. The WEB source shall maintain operating records sufficient to estimate annual emissions in a manner consistent with emission inventory submitted by the source for calendar year 1998. In addition, if the estimated emissions from all such units at the WEB source are greater than the allowances for the current control year held in the special reserve compliance account for the WEB source, the account representative shall report the excess amount as part of the annual report for the WEB source under Section 2(k) of this Chapter

and be required to use other allowances in the standard compliance account for the WEB source to account for such emissions, in accordance with Section 2(k) of this Chapter.

(V) Section 2(h) shall not apply to units covered by this paragraph except where otherwise noted.

(VI) A WEB source may opt to modify the monitoring for a sulfur dioxide emitting unit to use monitoring under Section 2(h)(i)(A) of this Chapter, but any such monitoring change must take effect on January 1 of the next compliance year. In addition, the account representative must submit an initial monitoring plan at least 180 days prior to the date on which the new monitoring will take effect and a detailed monitoring plan in accordance with Section 2(h)(ii) of this Chapter. The account representative shall also submit a revised notice under paragraph (B)(II) at the same time that the initial monitoring plan is submitted.

(C) For any monitoring that the WEB source uses under this Section (including paragraph (B)), the WEB source (and, as applicable, the account representative) shall implement, certify, and use such monitoring in accordance with this Section, and record and report the data from such monitoring as required in this Section. In addition, the WEB source (and, as applicable, the account representative) may not:

(I) Except for an alternative approved by the U.S. EPA Administrator for a WEB source that implements monitoring under Section 2(h)(i)(A)(I), use an alternative monitoring system, alternative reference method or another alternative for the required monitoring method without having obtained prior written approval in accordance with Section 2(h)(ix) of this Chapter (relating to petitions);

(II) Operate a sulfur dioxide emitting unit so as to discharge, or allow to be discharged, sulfur dioxide emissions to the atmosphere without accounting for these emissions in accordance with the applicable provisions of this Section;

(III) Disrupt the approved monitoring method or any portion thereof, and thereby avoid monitoring and recording sulfur dioxide mass emissions discharged into the atmosphere, except for periods of recertification or periods when calibration, quality assurance testing or maintenance is performed in accordance with the applicable provisions of this Section; or

(IV) Retire or permanently discontinue use of an approved monitoring method, except under one of the following circumstances:

(1.) During a period when the unit is exempt from the requirements of this Section, including retirement of a unit as addressed in Section 2(h)(i)(A)(III);

(2.) The WEB source is monitoring emissions from the unit with another certified monitoring method approved under this Section for use at the unit that provides data for the same parameter as the retired or discontinued monitoring method; or

(3.) The account representative submits notification of the date of certification testing of a replacement monitoring system in accordance with this Section, and the WEB source recertifies thereafter a replacement monitoring system in accordance with the applicable provisions of this Section.

*(ii)* Monitoring Plan.

(A) General Provisions. A WEB source with a sulfur dioxide emitting unit that uses a monitoring method under Section 2(h)(i)(A)(II) of this Chapter shall meet the following requirements:

(I) Prepare and submit to the State of Wyoming an initial monitoring plan for each monitoring method that the WEB source uses to comply with this Section. In accordance with paragraph 2(h)(ii)(C) of this Chapter, the plan shall contain sufficient information on the units involved, the applicable method, and the use of data derived from that method to demonstrate that all unit sulfur dioxide emissions are monitored and reported. The plan shall be submitted in accordance with the compliance deadlines specified in Section 2(h)(vi) of this Chapter.

(II) Prepare, maintain and submit to the State of Wyoming a detailed monitoring plan prior to the first day of certification testing in accordance with the compliance deadline specified in Section 2(h)(vi) of this Chapter. The plan will contain the applicable information required by Section 2(h)(ii)(D) of this Chapter. The State of Wyoming may require that the monitoring plan (or portions thereof) be submitted electronically. The State of Wyoming also may require that the plan be submitted on an ongoing basis in electronic format as part of the quarterly report submitted under Section 2(h)(viii)(A) of this Chapter or resubmitted separately after any change is made to the plan in accordance with the following paragraph (A)(III).

(III) Whenever the WEB source makes a replacement, modification, or change in one of the systems or methodologies provided for in Section 2(h)(i)(A)(II) of this Chapter, including a change in the automated data acquisition and handling system or in the flue gas handling system, that affects information reported in the monitoring plan (e.g., a change to serial number for a component of a monitoring system), then the WEB source shall update the monitoring plan in accordance with the compliance deadline specified in Section 2(h)(vi) of this Chapter.

(B) A WEB source with a sulfur dioxide emitting unit that uses a method under Section 2(h)(i)(A)(I) of this Chapter (a unit subject to 40 CFR part 75 under a program other than this WEB Trading Program) shall meet the requirements of Section 2(h)(ii)(A)-(F) by preparing, maintaining and submitting a monitoring plan in accordance with the requirements of 40 CFR part 75. If requested, the WEB source also shall submit the entire monitoring plan to the State of Wyoming.

(C) Initial Monitoring Plan. The account representative shall submit an initial monitoring plan for each sulfur dioxide emitting unit (or group of units sharing a common methodology) that, except as otherwise specified in an applicable provision in Appendix A, contains the following information:

(I) For all sulfur dioxide emitting units:

- (1.) Plant name and location;
- (2.) Plant and unit identification numbers assigned by the State of Wyoming;
- (3.) Type of unit (or units for a group of units using a common monitoring methodology);
- (4.) Identification of all stacks or pipes associated with the monitoring plan;
- (5.) Types of fuel(s) fired (or sulfur containing process materials used in the sulfur dioxide emitting unit), and the fuel classification of the unit if combusting more than one type of fuel and using a 40 CFR part 75 methodology;
- (6.) Type(s) of emissions controls for sulfur dioxide installed or to be installed, including specifications of whether such controls are pre-combustion, post-combustion, or integral to the combustion process;
- (7.) Maximum hourly heat input capacity, or process throughput capacity, if applicable;
- (8.) Identification of all units using a common stack; and
- (9.) Indicator of whether any stack identified in the plan is a bypass stack.

(II) For each unit and parameter required to be monitored, identification of monitoring methodology information, consisting of monitoring methodology, monitor locations, substitute data approach for the methodology, and general identification of quality assurance procedures. If the proposed methodology is a site-specific methodology submitted pursuant to Section 2(h)(i)(A)(II)(4.) of this Chapter, the description under this paragraph shall describe fully all aspects of the monitoring equipment, installation locations, operating characteristics, certification testing, ongoing quality assurance and maintenance procedures, and substitute data procedures.

(III) If the WEB source intends to petition for a change to any specific monitoring requirement otherwise required under this Section, such petition may be submitted as part of the initial monitoring plan.

(IV) The State of Wyoming may issue a notice of approval or disapproval of the initial monitoring plan based on the compliance of the proposed methodology with the requirements for monitoring in this Section.

(D) Detailed Monitoring Plan. The account representative shall submit a detailed monitoring plan that, except as otherwise specified in an applicable provision in Appendix A, shall contain the following information:

(I) Identification and description of each monitoring component (including each monitor and its identifiable components, such as analyzer or probe) in a CEMS (e.g., sulfur dioxide pollutant concentration monitor, flow monitor, moisture monitor), a 40 CFR part 75, Appendix D monitoring system (e.g., fuel flowmeter, data acquisition and handling system), or a protocol in Appendix A, including:

- (1.) Manufacturer, model number and serial number;
- (2.) Component or system identification code assigned by the facility to each identifiable monitoring component, such as the analyzer or probe;
- (3.) Designation of the component type and method of sample acquisition or operation (e.g., in situ pollutant concentration monitor or thermal flow monitor);
- (4.) Designation of the system as a primary or backup system;
- (5.) First and last dates the system reported data;
- (6.) Status of the monitoring component; and
- (7.) Parameter monitored.

(II) Identification and description of all major hardware and software components of the automated data acquisition and handling system, including:

- (1.) Hardware components that perform emission calculations or store data for quarterly reporting purposes (provide the manufacturer and model number); and
- (2.) Software components (provide the identification of the provider and model or version number).

(III) Explicit formulas for each measured emissions parameter, using component or system identification codes for the monitoring system used to measure the parameter that links the system observations with the reported concentrations and mass

emissions. The formulas must contain all constants and factors required to derive mass emissions from component or system code observations and an indication of whether the formula is being added, corrected, deleted, or is unchanged. The WEB source with a low mass emissions unit for which the WEB source is using the optional low mass emissions excepted methodology in section 75.19(c) of 40 CFR part 75 is not required to report such formulas.

(IV) Inside cross-sectional area (ft<sup>2</sup>) at flow monitoring location (for units with flow monitors only).

(V) If using CEMS for sulfur dioxide and flow, for each parameter monitored: scale, maximum potential concentration (and method of calculation), maximum expected concentration (if applicable) (and method of calculation), maximum potential flow rate (and method of calculations), span value, full-scale range, daily calibration units of measure, span effective date and hour, span inactivation date and hour, indication of whether dual spans are required, default high range value, flow rate span, and flow rate span value and full scale value (in standard cubic feet per hour) for each unit or stack using sulfur dioxide or flow component monitors.

(VI) If the monitoring system or excepted methodology provides for use of a constant, assumed, or default value for a parameter under specific circumstances, then include the following information for each value of such parameter:

- (1.) Identification of the parameter;
- (2.) Default, maximum, minimum, or constant value, and units of measure for the value;
- (3.) Purpose of the value;
- (4.) Indicator of use during controlled or uncontrolled hours;
- (5.) Types of fuel;
- (6.) Source of the value;
- (7.) Value effective date and hour;
- (8.) Date and hour value is no longer effective (if applicable); and
- (9.) For units using the excepted methodology under section 75.19 of 40 CFR part 75, the applicable sulfur dioxide emission factor.

(VII) Unless otherwise specified in section 6.5.2.1 of Appendix A to 40 CFR part 75, for each unit or common stack on which hardware CEMS are installed:

(1.) The upper and lower boundaries of the range of operation (as defined in section 6.5.2.1 of Appendix A to 40 CFR part 75), or thousand of pounds per hour (lb/hr) of steam, or feet per second (ft/sec) (as applicable);

(2.) The load or operating level(s) designated as normal in section 6.5.2.1 of Appendix A to 40 CFR part 75, or thousands of lb/hr of steam, or ft/sec (as applicable);

(3.) The two load or operating levels (i.e., low, mid, or high) identified in section 6.5.2.1 of Appendix A to 40 CFR part 75 as the most frequently used;

(4.) The date of the data analysis used to determine the normal load (or operating) level(s) and the two most frequently-used load (or operating) levels; and

(5.) Activation and deactivation dates when the normal load or operating level(s) change and are updated.

(VIII) For each unit that is complying with 40 CFR part 75 for which the optional fuel flow-to-load test in section 2.1.7 of Appendix D to 40 CFR part 75 is used:

(1.) The upper and lower boundaries of the range of operation (as defined in section 6.5.2.1 of Appendix A to 40 CFR part 75), expressed in thousands of lb/hr of steam;

(2.) The load level designated as normal, pursuant to section 6.5.2.1 of Appendix A to 40 CFR part 75, expressed in thousands of lb/hr of steam; and

(3.) The date of the load analysis used to determine the normal load level.

(IX) Information related to quality assurance testing, including (as applicable): identification of the test strategy; protocol for the relative accuracy test audit; other relevant test information; calibration gas levels (percent of span) for the calibration error test and linearity check; calculations for determining maximum potential concentration, maximum expected concentration (if applicable), maximum potential flow rate, and span;

(X) If applicable, apportionment strategies under sections 75.10 through 75.18 of 40 CFR part 75.

(XI) Description of site locations for each monitoring component in a monitoring system, including schematic diagrams and engineering drawings and any other documentation that demonstrates each monitor location meets the appropriate siting criteria. For units monitored by a continuous emission monitoring system, diagrams shall include:

(1.) A schematic diagram identifying entire gas handling system from unit to stack for all units, using identification numbers for units, monitor components, and stacks corresponding to the identification numbers provided in the initial monitoring plan and paragraphs (D)(I) and (III). The schematic diagram must depict the height of any monitor locations. Comprehensive or separate schematic diagrams shall be used to describe groups of units using a common stack.

(2.) Stack and duct engineering diagrams showing the dimensions and locations of fans, turning vanes, air preheaters, monitor components, probes, reference method sampling ports, and other equipment that affects the monitoring system location, performance, or quality control checks.

(XII) A data flow diagram denoting the complete information handling path from output signals of CEMS components to final reports.

(E) In addition to supplying the information in paragraphs (C) and (D) above, the WEB source with a sulfur dioxide emitting unit using either of the methodologies in paragraph (h)(i)(A)(II)(2.) of this Section shall include the following information in its monitoring plan for the specific situations described:

(I) For each gas-fired or oil-fired sulfur dioxide emitting unit for which the WEB source uses the optional protocol in Appendix D to 40 CFR part 75 for sulfur dioxide mass emissions, the WEB source shall include the following information in the monitoring plan:

(1.) Parameter monitored;

(2.) Type of fuel measured, maximum fuel flow rate, units of measure, and basis of maximum fuel flow rate (i.e., upper range value or unit maximum) for each fuel flowmeter;

(3.) Test method used to check the accuracy of each fuel flowmeter;

(4.) Submission status of the data;

(5.) Monitoring system identification code;

(6.) The method used to demonstrate that the unit qualifies for monthly gross calorific value (GCV) sampling or for daily or annual fuel sampling for sulfur content, as applicable;

(7.) A schematic diagram identifying the relationship between the unit, all fuel supply lines, the fuel flowmeter(s), and the stack(s). The schematic diagram must depict the installation location of each fuel flowmeter and the fuel sampling

location(s). Comprehensive or separate schematic diagrams shall be used to describe groups of units using a common pipe;

(8.) For units using the optional default sulfur dioxide emission rate for “pipeline natural gas” or “natural gas” in Appendix D to 40 CFR part 75, the information on the sulfur content of the gaseous fuel used to demonstrate compliance with either section 2.3.1.4 or 2.3.2.4 of appendix D to 40 CFR part 75;

(9.) For units using the 720 hour test under section 2.3.6 of Appendix D to 40 CFR part 75 to determine the required sulfur sampling requirements, report the procedures and results of the test; and

(10.) For units using the 720 hour test under section 2.3.5 of Appendix D to 40 CFR part 75 to determine the appropriate fuel GCV sampling frequency, report the procedures used and the results of the test.

(II) For each sulfur dioxide emitting unit for which the WEB source uses the low mass emission excepted methodology of section 75.19 to 40 CFR part 75, the WEB source shall include the following information in the monitoring plan that accompanies the initial certification application:

(1.) The results of the analysis performed to qualify as a low mass emissions unit under section 75.19(c) to 40 CFR part 75. This report will include either the previous three years actual or projected emissions. The following items should be included:

- a. Current calendar year of application;
- b. Type of qualification;
- c. Years one, two, and three;
- d. Annual measured, estimated or projected sulfur dioxide mass emissions for years one, two, and three; and
- e. Annual operating hours for years one, two, and three.

(2.) A schematic diagram identifying the relationship between the unit, all fuel supply lines and tanks, any fuel flowmeter(s), and the stack(s). Comprehensive or separate schematic diagrams shall be used to describe groups of units using a common pipe;

(3.) For units which use the long-term fuel flow methodology under section 75.19(c)(3) to 40 CFR part 75, a diagram of the fuel flow to each unit

or group of units and a detailed description of the procedures used to determine the long-term fuel flow for a unit or group of units for each fuel combusted by the unit or group of units;

(4.) A statement that the unit burns only gaseous fuel(s) or fuel oil and a list of the fuels that are burned or a statement that the unit is projected to burn only gaseous fuel(s) or fuel oil and a list of the fuels that are projected to be burned;

(5.) A statement that the unit meets the applicability requirements in sections 75.19(a) and (b) to 40 CFR part 75 with respect to sulfur dioxide emissions; and

(6.) Any unit historical actual, estimated and projected sulfur dioxide emissions data and calculated sulfur dioxide emissions data demonstrating that the unit qualifies as a low mass emissions unit under sections 75.19(a) and (b) to 40 CFR part 75.

(III) For each gas-fired unit the WEB source shall include the following in the monitoring plan: current calendar year, fuel usage data as specified in the definition of gas-fired in section 72.2 of 40 CFR part 72, and an indication of whether the data are actual or projected data.

(F) The specific elements of a monitoring plan under this Section 2(h)(ii) shall not be part of an operating permit for a WEB source issued in accordance with Title V of the Clean Air Act, and modifications to the elements of the plan shall not require a permit modification.

**(iii) Certification and Recertification.**

(A) All monitoring systems are subject to initial certification and recertification testing as specified in 40 CFR part 75 or Appendix A to Chapter 14, as applicable. Certification or recertification of a monitoring system by the U.S. Environmental Protection Agency for a WEB source that is subject to 40 CFR part 75 under a requirement separate from this Rule shall constitute certification under the WEB Trading Program.

(B) The WEB source with a sulfur dioxide emitting unit not otherwise subject to 40 CFR part 75 that monitors sulfur dioxide mass emissions in accordance with 40 CFR part 75 to satisfy the requirements of this Section shall perform all of the tests required by that regulation and shall submit the following:

(I) A test notice, not later than 21 days before the certification testing of the monitoring system, provided that the State of Wyoming may establish additional requirements for adjusting test dates after this notice as part of the approval of the initial monitoring plan under Section 2(h)(ii)(C) of this Chapter; and

(II) An initial certification application within 45 days after testing is complete.

(C) A monitoring system will be considered provisionally certified while the application is pending, and the system shall be deemed certified if the State of Wyoming does not approve or disapprove the system within six months after the date on which the application is submitted.

(D) Whenever an audit of any monitoring certified under this Rule, and a review of the initial certification or recertification application, reveal that any system or component should not have been certified or recertified because it did not meet a particular performance specification or other requirement of Chapter 14, both at the time of the initial certification or recertification application submission and at the time of the audit, the State of Wyoming will issue a notice of disapproval of the certification status of such system or component. For the purposes of this paragraph, an audit shall be either a field audit of the facility or an audit of any information submitted to the State of Wyoming regarding the facility. By issuing the notice of disapproval, the certification status is revoked prospectively, and the data measured and recorded shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the WEB source completes subsequently approved initial certification or recertification tests in accordance with the procedures in this Section 2(h)(iii). The WEB source shall apply the substitute data procedures in Section 2(h)(v)(B) of this Chapter to replace, prospectively, all of the invalid, non-quality-assured data for each disapproved system or component.

*(iv) Ongoing Quality Assurance and Quality Control.*

The WEB source shall satisfy the applicable quality assurance and quality control requirements of part 75 or, if the WEB source is subject to a WEB protocol in Appendix A, the applicable quality assurance and quality control requirements in Appendix A on and after the date that certification testing commences.

*(v) Substitute Data Procedures.*

(A) For any period after certification testing is complete in which quality assured, valid data are not being recorded by a monitoring system certified and operating in accordance with Chapter 14, missing or invalid data shall be replaced with substitute data in accordance with 40 CFR part 75 or, if the WEB source is subject to a WEB protocol in Appendix A, with substitute data in accordance with Appendix A.

(B) For a sulfur dioxide emitting unit that does not have a certified (or provisionally certified) monitoring system in place as of the beginning of the first control period for which the unit is subject to the WEB Trading Program, the WEB source shall:

(I) If the WEB source will use a CEMS to comply with this Section, substitute the maximum potential concentration of sulfur dioxide for the unit and the maximum potential flow rate, as determined in accordance with 40 CFR part 75. The procedures for conditional data validation under section 75.20(b)(3) may be used for any monitoring system under Chapter 14 that uses these 40 CFR part 75 procedures, as applicable;

(II) If the WEB source will use the 40 CFR part 75 Appendix D methodology, substitute the maximum potential sulfur content, density or gross calorific value for the fuel and the maximum potential fuel flow rate, in accordance with section 2.4 of Appendix D to 40 CFR part 75;

(III) If the WEB source will use the 40 CFR part 75 methodology for low mass emissions units, substitute the sulfur dioxide emission factor required for the unit as specified in 40 CFR 75.19 and the maximum rated hourly heat input, as defined in 40 CFR 72.2; or

(IV) If using a protocol in Appendix A to Chapter 14, follow the procedures in the applicable protocol.

(vi) Compliance Deadlines.

(A) The initial monitoring plan shall be submitted by the following dates:

(I) For each source that is a WEB source on or before the program trigger date, the monitoring plan shall be submitted 180 days after such program trigger date.

(II) For any existing source that becomes a WEB source after the program trigger date, the monitoring plan shall be submitted by September 30 of the year following the inventory year in which the source exceeded the emissions threshold.

(III) For any new WEB source, the monitoring plan shall be included with the permit application for a Chapter 6, Section 2 permit.

(B) A detailed monitoring plan under Section 2(h)(ii)(B) shall be submitted no later than 45 days prior to commencing certification testing in accordance with the following paragraph (C). Modifications to monitoring plans shall be submitted within 90 days of implementing revised monitoring plans.

(C) Emission monitoring systems shall be installed, operational and shall have met all of the certification testing requirements of this Section 2(h) (including any referenced in Appendix A) by the following dates:

(I) For each source that is a WEB source on or before the program trigger date, two years prior to the start of the first control period as described in Section 2(k) of this Chapter.

(II) For any existing source that becomes a WEB source after the program trigger date, one year after the due date for the monitoring plan under Section 2(h)(vi)(A)(II) of this Chapter.

(III) For any new WEB source (or any new unit at a WEB source under paragraphs (C)(I) or (C)(2)), the earlier of 90 unit operating days or 180 calendar days after the date the new source commences operation.

(D) The WEB source shall submit test notices and certification applications in accordance with the deadlines set forth in Section 2(h)(iv)(B).

(E) For each applicable control period, the WEB source shall submit each quarterly report under Section 2(h)(viii) by no later than 30 days after the end of each calendar quarter and shall submit the annual report under Section 2(h)(viii) no later than 60 days after the end of each calendar year.

*(vii) Recordkeeping.*

(A) The WEB source shall keep copies of all reports, registration materials, compliance certifications, sulfur dioxide emissions data, quality assurance data, and other submissions under Chapter 14 for a period of five years. In addition, the WEB source shall keep a copy of all Certificates for the duration of this program. Unless otherwise requested by the WEB source and approved by the State of Wyoming, the copies shall be kept on site.

(B) The WEB source shall keep records of all operating hours, quality assurance activities, fuel sampling measurements, hourly averages for sulfur dioxide, stack flow, fuel flow, or other continuous measurements, as applicable, and any other applicable data elements specified in this Section or in Appendix A to Chapter 14. The WEB source shall maintain the applicable records specified in 40 CFR part 75 for any sulfur dioxide emitting unit that uses a part 75 monitoring method to meet the requirements of this Section.

*(viii) Reporting.*

(A) Quarterly Reports. For each sulfur dioxide emitting unit, the account representative shall submit a quarterly report within thirty (30) days after the end of each calendar quarter. The report shall be in a format specified by the State of Wyoming to include hourly and quality assurance activity information and shall be submitted in a manner compatible with the emissions tracking database designed for the WEB Trading Program. If the WEB source submits a quarterly report under 40 CFR part 75 to the U.S. EPA Administrator, no additional report under this paragraph (A) shall be required. The State of Wyoming will require that a copy of that report (or a separate statement of quarterly and cumulative annual sulfur dioxide mass emissions) be submitted separately to the State of Wyoming.

(B) Annual Report. Based on the quarterly reports, each WEB source shall submit an annual statement of total annual sulfur dioxide emissions for all sulfur dioxide emitting units at the source. The annual report shall identify total emissions for all units monitored in accordance with Section 2(h)(i)(A) of this Chapter and the total emissions for all units with emissions estimated in accordance with Section 2(h)(i)(B) of this Chapter. The annual report shall be submitted within 60 days after the end of a control period.

(C) If the State of Wyoming so directs, any monitoring plan, report, certification, recertification, or emissions data required to be submitted under this Section shall be submitted to the TSA.

(D) The State of Wyoming may review and reject any report submitted under this Section 2(h)(viii) that contains errors or fails to satisfy the requirements of this Section, and the account representative shall resubmit the report to correct any deficiencies.

**(ix) *Petitions.***

(A) A WEB source may petition for an alternative to any requirement specified in Section 2(h)(i)(A)(II). The petition shall require approval of the State of Wyoming and the U.S. EPA Administrator. Any petition submitted under this paragraph shall include sufficient information for the evaluation of the petition, including, at a minimum, the following information:

(I) Identification of the WEB source and applicable sulfur dioxide emitting unit(s);

(II) A detailed explanation of why the proposed alternative is being suggested in lieu of the requirement;

(III) A description and diagram of any equipment and procedures used in the proposed alternative, if applicable;

(IV) A demonstration that the proposed alternative is consistent with the purposes of the requirement for which the alternative is proposed, is consistent with the purposes of Chapter 14 and that any adverse effect of approving such alternative will be *de minimis*; and

(V) Any other relevant information that the State of Wyoming may require.

**(x) *Consistency of Identifying Information.***

For any monitoring plans, reports, or other information submitted under Section 2(h) of this Chapter, the WEB source shall ensure that, where applicable, identifying information is consistent with the identifying information provided in the most recent Certificate for the WEB source submitted under Section 2(d) of this Chapter.

**(i) *Allowance Transfers.***

(i) Procedure. To transfer allowances, the account representative shall submit the following information to the TSA:

(A) The transfer account number(s) identifying the transferor account;

- (B) The transfer account number(s) identifying the transferee account;
- (C) The serial number of each allowance to be transferred; and
- (D) The transferor's account representative's name and signature and date of submission.

**(ii) Allowance Transfer Deadline.** The allowance transfer deadline is midnight Pacific Standard Time on March 1 of each year (or if this date is not a business day, midnight of the first business day thereafter) following the end of the control period. By this time, the transfer of the allowances into the WEB source's compliance account must be correctly submitted to the TSA in order to demonstrate compliance under Section 2(k) of this Chapter for that control period.

**(iii) Retirement of Allowances.** To permanently retire allowances, the account representative shall submit the following information to the TSA:

- (A) The transfer account number(s) identifying the transferor account;
- (B) The serial number of each allowance to be retired; and
- (C) The transferor's account representative's name and signature and date of submission accompanied by a signed statement acknowledging that each retired allowance is no longer available for future transfers from or to any account.

***(j) Use of Allowances from a Previous Year.***

**(i)** Any allowance that is held in a compliance account or general account will remain in such an account unless and until the allowance is deducted in conjunction with the compliance process, or transferred to another account.

**(ii)** In order to demonstrate compliance under Section 2(k)(i) of this Chapter for a control period, WEB sources shall only use allowances allocated for that current control period or any previous year. Because all allowances held in a special reserve compliance account for a WEB source that monitors certain units in accordance with Section 2(h)(i)(B) of this Chapter will be deducted for compliance for each control period, no banking of such allowances for use in a subsequent year is permitted by Chapter 14.

**(iii)** If flow control procedures for the current control period have been triggered as outlined in Part C4.2 of Section C of the WYRHSIP, then the use of allowances that were allocated for any previous year will be limited as follows:

- (A) The number of allowances that are held in each compliance account and general account as of the allowance transfer deadline for the immediately previous year and that were allocated for any previous year will be determined.

(B) The number determined in (A) will be multiplied by the flow control ratio established in accordance with Part C4.2(b)(1) of Section C of the WYRHSIP to determine the number of allowances that were allocated for a previous year that can be used without restriction for the current control period.

(C) Allowances that were allocated for a previous year in excess of the number determined in (B) may also be used for the current control period. If such allowances are used to make a deduction, two allowances must be deducted for each deduction of one allowance required under Section 2(k) of this Chapter.

(iv) Special provisions for the year 2018. After compliance with the 2017 allowance limitation has been determined in accordance with Section 2(k)(i) of this Chapter, allowances allocated for any year prior to 2018 shall not be used for determining compliance with the 2018 allowance limitation or any future allowance limitation.

***(k) Compliance.***

***(i) Compliance with Allowance Limitations.***

(A) The WEB source must hold allowances, in accordance with Section 2(k)(i)(B) and (C) below and Section 2(j) of this Chapter, as of the allowance transfer deadline in the WEB source's compliance account (together with any current control year allowances held in the WEB source's special reserve compliance account under Section 2(h)(i)(B) of this Chapter) in an amount not less than the total sulfur dioxide emissions for the control period from the WEB source, as determined under the monitoring and reporting requirements of Section 2(h) of this Chapter.

(I) For each source that is a WEB source on or before the program trigger date, the first control period is the calendar year that is six (6) years following the calendar year for which sulfur dioxide emissions exceeded the milestone in accordance with procedures in Part A3 of Section C of the WYRHSIP.

(II) For any existing source that becomes a WEB source after the program trigger date, the first control period is the calendar year that is four (4) years following the inventory year in which the source exceeded the sulfur dioxide emissions threshold.

(III) For any new WEB source after the program trigger date the first control period is the first full calendar year that the source is in operation.

(IV) If the WEB Trading Program is triggered in accordance with the 2013 review procedures in Part A4 of Section C of the WYRHSIP, the first control period for each source that is a WEB source on or before the program trigger date is the year 2018.

(B) Allowance transfer deadline. An allowance may only be deducted from the WEB source's compliance account if:

(I) The allowance was allocated for the current control period or meets the requirements in Section 2(j) of this Chapter for use of allowances from a previous control period, and

(II) The allowance was held in the WEB source's compliance account as of the allowance transfer deadline for the current control period, or was transferred into the compliance account by an allowance transfer correctly submitted for recording by the allowance transfer deadline for the current control period.

(C) Compliance with allowance limitations shall be determined as follows:

(I) The total annual sulfur dioxide emissions for all sulfur dioxide emitting units at the source that are monitored under Section 2(h)(i)(B) of this Chapter, as reported by the source in Section 2(h)(viii)(B) or (D) of this Chapter, and recorded in the emissions tracking database shall be compared to the allowances held in the source's special reserve compliance account as of the allowance transfer deadline for the current control period, adjusted in accordance with Section 2(j) of this Chapter. If the emissions are equal to or less than the allowances in such account, all such allowances shall be retired to satisfy the obligation to hold allowances for such emissions. If the total emissions from such units exceed the allowances in such special reserve account, the WEB source shall account for such excess emissions in the following paragraph (II).

(II) The total annual sulfur dioxide emissions for all sulfur dioxide emitting units at the source that are monitored under Section 2(h)(i)(A) of this Chapter, as reported by the source in Section 2(h)(viii)(B) or (D) of this Chapter, and recorded in the emissions tracking database, together with any excess emissions as calculated in the preceding paragraph (I), shall be compared to the allowances held in the source's compliance account as of the allowance transfer deadline for the current control period, adjusted in accordance with Section 2(j) of this Chapter.

(III) If the comparison in Section 2(k)(i)(C)(II) results in emissions that exceed the allowances held in the source's compliance account, the source has exceeded its allowance limitation and the excess emissions are subject to the allowance deduction penalty in Section 2(k)(iii).

(D) Other than allowances in a special reserve compliance account for units monitored under Section 2(h)(i)(B) of this Chapter, to the extent consistent with Section 2(j) of this Chapter, allowances shall be deducted for a WEB source for compliance with the allowance limitation as directed by the WEB source's account representative. Deduction of any other allowances as necessary for compliance with the allowance limitation shall be on a first-in, first-out accounting basis in the order of the date and time of their recording in the WEB source's compliance account, beginning with the allowances allocated to the WEB source and continuing with the allowances transferred to the WEB source's compliance account from another compliance account or general account. The allowances held in a special reserve compliance

account pursuant to Section 2(h)(i)(B) of this Chapter shall be deducted as specified in paragraph (C)(I) of this Section 2(k).

(ii) Certification of Compliance.

(A) For each control period in which a WEB source is subject to the allowance limitation, the account representative of the source shall submit to the Department a compliance certification report for the source.

(B) The compliance certification report shall be submitted no later than the allowance transfer deadline of each control period, and shall contain the following:

(I) Identification of each WEB source;

(II) At the account representative's option, the serial numbers of the allowances that are to be deducted from a source's compliance account for compliance with the allowance limitation; and

(III) The compliance certification report according to subpart (C) of this section.

(C) In the compliance certification report, the account representative shall certify, based on reasonable inquiry of those persons with primary responsibility for operating the WEB source in compliance with the WEB Trading Program, whether the WEB source for which the compliance certification is submitted was operated during the control period covered by the report in compliance with the requirements of the WEB Trading Program applicable to the source including:

(I) Whether the WEB source operated in compliance with the sulfur dioxide allowance limitation;

(II) Whether sulfur dioxide emissions data has been submitted to the Department in accordance with Section 2(h)(viii) of this Chapter and other applicable guidance, for review, revision as necessary, and finalization for forwarding to the sulfur dioxide Allowance Tracking System for recording;

(III) Whether the monitoring plan that governs the WEB source has been maintained to reflect the actual operation and monitoring of the source, and contains all information necessary to attribute sulfur dioxide emissions to the source, in accordance with Section 2(h)(i) of this Chapter;

(IV) Whether all the sulfur dioxide emissions from the WEB source if applicable, were monitored or accounted for either through the applicable monitoring or through application of the appropriate missing data procedures;

(V) If applicable, whether any sulfur dioxide emitting unit for which the WEB source is not required to monitor in accordance with Section 2(h)(i)(A)(III) of this Chapter remained permanently retired and had no emissions for the entire applicable period; and

(VI) Whether there were any changes in the method of operating or monitoring the WEB source that required monitor recertification. If there were any such changes, the report must specify the nature, reason, and date of the change, the method to determine compliance status subsequent to the change, and specifically, the method to determine sulfur dioxide emissions.

*(iii)* Penalties for any WEB source exceeding its allowance limitations.

(A) Allowance deduction penalty.

(I) If emissions from a WEB source exceed the allowance limitation for a control period, as determined in accordance with Section 2(k)(i) of this Chapter, the source's allowances held in its compliance account will be reduced by an amount equal to three times the source's tons of excess emissions. If the compliance account does not have sufficient allowances allocated for that control period, the required number of allowances will be deducted from the WEB source's compliance account regardless of the control period for which they were allocated, once allowances are recorded in the account.

(II) Any allowance deduction required under Section 2(k)(i)(C) of this Chapter shall not affect the liability of the owners and operators of the WEB source for any fine, penalty or assessment or their obligation to comply with any other remedy, for the same violation, as ordered under the Clean Air Act, implementing regulations or Wyoming Statute 35-11-901. Accordingly, a violation can be assessed each day of the control period for each ton of sulfur dioxide emissions in excess of its allowance limitation, or for each other violation of Section 2 of this Chapter.

*(iv)* Liability.

(A) WEB Source liability for non-compliance. Separate and regardless of any allowance deduction penalty, a WEB source that violates any requirement of Chapter 14 is subject to civil and criminal penalties under Wyoming Statute 35-11-901. Each day of the control period is a separate violation, and each ton of sulfur dioxide emissions in excess of a source's allowance limitation is a separate violation.

(B) General liability.

(I) Any provision of the WEB Trading Program that applies to a source or an account representative shall apply also to the owners and operators of such source.

(II) Any person who violates any requirement or prohibition of the WEB Trading Program will be subject to enforcement pursuant to Wyoming Statute 35-11-901.

(III) Any person who knowingly makes a false material statement in any record, submission, or report under this WEB Trading Program shall be subject to criminal enforcement pursuant to Wyoming Statute 35-11-901.

***(l) Special Penalty Provisions for the 2018 Milestone.***

(i) If the WEB Trading Program is triggered as outlined in Part A3 of Section C of the WYRHSIP, and the first control period will not occur until after the year 2018, the following provisions shall apply for the 2018 emissions year.

(A) All WEB sources shall register, and open a compliance account within 180 days after the program trigger date, in accordance with Section 2(e)(i) and Section 2(g) of this Chapter.

(B) The TSA will record the allowances for the 2018 control period for each WEB source in the source's compliance account once the Department allocates the 2018 allowances under Part A4.4 of Section C of the WYRHSIP.

(C) The allowance transfer deadline is midnight Pacific Standard Time on May 31, 2021 (or if this date is not a business day, midnight of the first business day thereafter). WEB sources may transfer allowances as provided in Section 2(i)(i) of this Chapter until the allowance transfer deadline.

(D) A WEB source must hold allowances allocated for 2018, including those transferred into the compliance account by an allowance transfer correctly submitted by the allowance transfer deadline, in an amount not less than the WEB source's total sulfur dioxide emissions for 2018. Emissions are determined using the pre-trigger monitoring provisions in Part A2.1 of Section C of the WYRHSIP, and Chapter 14, Section 3.

(E) In accordance with Section 2(j)(iv) and 2(l)(i)(D), Wyoming shall seek at least the minimum financial penalty of \$5,000 per ton of SO<sub>2</sub> emissions in excess of the WEB source's allowance limitation.

(I) Any source may resolve its excess emissions violation by agreeing to a streamline settlement approach where the source pays a penalty of \$5,000 per ton or partial ton of excess emissions, and payment is received within 90 calendar days after the issuance of a notice of violation.

(II) Any source that does not resolve its excess emissions violation in accordance with the streamlined settlement approach in Section 2(l)(i)(E)(I) will be subject to civil enforcement action, in which the Department shall seek a financial penalty for the excess emissions based on the State's statutory maximum civil penalties.

(F) Each ton of SO<sub>2</sub> emissions in excess of a source's allowance limitation is a separate violation and each day of a control period is a separate violation.

(ii) The provisions in Section 2(l) of Chapter 14 shall continue to apply for each year after the 2018 emission year until:

(A) The first control period under the WEB trading program under Section 2(k)(i)(A)(I); or

(B) The Department determines, in accordance with Part A3 of Section C of the WYRHSIP, that the 2018 sulfur dioxide milestone has been met.

(iii) Special penalty provisions for the 2018 milestone for 2019 control period and each control period thereafter as provided under Section 2(l)(ii) include the following:

(A) For the 2019 control period, the allowance transfer deadline is midnight Pacific Standard Time on May 31, 2021 (or if this date is not a business day, midnight of the first business day thereafter). WEB sources may transfer allowances as provided in Section 2(i)(i) of this Rule until the allowance transfer deadline.

(B) A WEB source must hold allowances allocated for the 2019 control period, including those transferred into the compliance account by an allowance transfer correctly submitted by the allowance transfer deadline, in an amount not less than the WEB source's total SO<sub>2</sub> emissions for the 2019 control period. Emissions are determined using the pre-trigger monitoring provisions in Part A2.1 of Section C of the WYRHSIP, and Chapter 14, Section 3.

(C) In accordance with Section 2(j)(iv) and 2(i)(i)(D), Wyoming shall seek at least the minimum financial penalty of \$5,000 per ton of SO<sub>2</sub> emissions in excess of the WEB source's allowance limitation.

(I) Any source may resolve its excess emissions violation by agreeing to a streamline settlement approach where the source pays a penalty of \$5,000 per ton or partial ton of excess emissions, and payment is received within 90 calendar days after the issuance of a notice of violation.

(II) Any source that does not resolve its excess emissions violation in accordance with the streamlined settlement approach in Section 2(l)(i)(E)(I) will be subject to civil enforcement action, in which the Department shall seek a financial penalty for the excess emissions based on the State's statutory maximum civil penalties.

(D) Each ton of SO<sub>2</sub> emissions in excess of a source's allowance limitation is a separate violation and each day of a control period is a separate violation.

(E) For each control period after 2019 that the special penalty is assessed, the dates and deadlines in 2(l)(iii)(A)-(D) above will be adjusted forward by one year.

***(m) Integration Into Permits.***

Any WEB source that is not subject to Chapter 6, Section 3 at any time after Chapter 14 becomes effective must obtain a permit under Chapter 6, Section 2 or modify an existing permit issued under Chapter 6, Section 2 that incorporates the requirements of Section 2 of this Chapter.

Section 3. Sulfur dioxide milestone inventory.

**(a) Applicability.**

**(i)** Section 3 of this Chapter applies to all stationary sources with actual emissions of 100 tons per year or more of sulfur dioxide in calendar year 2000 or any subsequent year.

**(ii)** Except as provided in (iii) and (iv), any source that meets the criteria of (i) that emits less than 100 tons per year in any subsequent year shall remain subject to the requirements of Section 3 of this Chapter until 2018 or until the first control period under the Western Backstop Sulfur Dioxide Trading Program as established in Section 2 of this Chapter, whichever is earlier.

**(iii)** A stationary source that meets the requirements of (i) that has permanently ceased operation is exempt from the requirements of Chapter 14.

**(b) Annual Sulfur Dioxide Emission Report.**

**(i)** Except as provided in (ii), each source subject to Chapter 14 shall report sulfur dioxide emissions by April 15<sup>th</sup> of each calendar year, in accordance with the schedule cited in Section 3(b)(iii), below.

**(ii)** Each source subject to Chapter 14 that is also subject to 40 CFR part 75 reporting requirements, shall submit a summary report of annual sulfur dioxide emissions that were reported to the Environmental Protection Agency under 40 CFR part 75.

**(iii)** Each source subject to Chapter 14 shall report emissions for the year 2003 by April 15, 2004, and annually thereafter. The inventory shall be submitted in the format specified by the Division of Air Quality.

**(iv)** For the reports cited in (i) and (ii) of this section, each source subject to Chapter 14 shall document the emissions monitoring/estimation methodology used to calculate their sulfur dioxide emissions, and demonstrate that the selected methodology is acceptable under the inventory program.

**(v)** For the reports cited in (i) and (ii) of this section, each source subject to Chapter 14 shall include emissions from start up, shut down, and upset conditions in the annual total inventory.

(vi) For the reports cited in (i) and (ii) of this section, each source subject to Chapter 14 shall use 40 CFR part 75 methodology for reporting emissions for all sources subject to the federal acid rain program.

(vii) For the reports cited in (i) and (ii) of this section, each source subject to Chapter 14 shall maintain all records used in the calculation of the emissions, including but not limited to the following:

- (A) amount of fuel consumed;
- (B) percent sulfur content of fuel and how the content was determined;
- (C) quantity of product produced;
- (D) emissions monitoring data;
- (E) operating data; and
- (F) how the emissions are calculated

(viii) For the reports cited in (i) and (ii) of this section, each source subject to Chapter 14 shall maintain records of any physical changes to facility operations or equipment, or any other changes (e.g., raw material or feed) that may affect the emissions projections.

(ix) For the reports cited in (i) and (ii) of this section, each source subject to Chapter 14 shall retain records for a minimum of ten years from the date of establishment, or if the record was the basis for an adjustment to the milestone, 5 years after the date of an implementation plan revision, whichever is longer.

***(c) Changes in Emission Measurement Techniques.***

(i) Each source subject to Chapter 14 that is also subject to 40 CFR part 75 and that uses 40 CFR part 60, Appendix A, Test Methods 2F, 2G, or 2H to measure stack flow rate shall adjust reported sulfur dioxide emissions to ensure that the reported sulfur dioxide emissions are comparable to 1999 emissions. The adjustment may be calculated using the methods in (A) through (C). The calculations that are used to make this adjustment shall be included with the annual emission report under Section 3(b) of this Chapter.

(A) Directly determine the difference in flow rate through a side-by-side comparison of data collected with the new and old flow reference methods required during a RATA test under 40 CFR part 75.

(B) Compare the annual average heat rate using heat input data from the federal acid rain program (MMBtu) and total generation (MWHrs) as reported to the federal Energy Information Administration. The flow adjustment will be calculated by using the

following ratio: (Heat input/MW for first full year of data using new flow rate method) divided by (Heat input/MW for last full year of data using old flow rate method).

(C) Compare the CFM per Megawatt (MW) before and after the new flow reference method based on continuous emission monitoring data submitted in the federal acid rain program, using the following equation: (SCF/unit of generation for first full year of data using new flow rate method) divided by (SCF/unit of generation for last full year of data using old flow rate method).

(ii) Each source subject to this Rule that uses a different emission monitoring or calculation method than was used to report their sulfur dioxide emissions in 1998 under Chapter 14, Section 3 shall adjust their reported emissions to be comparable to the emission monitoring or calculation method that was used in 1998. The calculations that are used to make this adjustment shall be included with the annual emission report under Section 3(b) of this Chapter.

#### Section 5. Incorporation by reference.

(a) **Code of Federal Regulations (CFR).** All Code of Federal Regulations (CFRs), including their Appendices, cited in this Chapter, revised and published as of July 1, 2006, not including any later amendments, unless portions of said CFRs are specifically excluded in citation, are incorporated by reference. Copies of the Code of Federal Regulations are available for public inspection and copies can be obtained at cost from the Department of Environmental Quality, Division of Air Quality, 122 W. 25<sup>th</sup> Street, Cheyenne, Wyoming 82002. Copies of the CFRs can also be obtained at cost from Government Institutes, 15200 NBN Way, Building B, Blue Ridge Summit, PA 17214.

## APPENDIX A: WEB CHAPTER 14, SECTION 2 MONITORING PROTOCOLS

### Protocol WEB-1: SO<sub>2</sub> Monitoring of Fuel Gas Combustion Devices

#### 1. Applicability

(a) The provisions of this protocol are applicable to fuel gas combustion devices at petroleum refineries.

(b) Fuel gas combustion devices include boilers, process heaters, and flares used to burn fuel gas generated at a petroleum refinery.

(c) Fuel gas means any gas which is generated and combusted at a petroleum refinery. Fuel gas does not include: (1) natural gas, unless combined with other gases generated at a petroleum refinery, (2) gases generated by a catalytic cracking unit catalyst regenerator, (3) gases generated by fluid coking burners, (4) gases combusted to produce sulfur or sulfuric acid, or (5) process upset gases generated due to startup, shutdown, or malfunctions.

#### 2. Monitoring Requirements

(a) Except as provided in paragraphs (b) and (c) of this Section 2, fuel gas combustion devices shall use a continuous fuel gas monitoring system (CFGMS) to determine the total sulfur content (reported as H<sub>2</sub>S) of the fuel gas mixture prior to combustion, and continuous fuel flow meters to determine the amount of fuel gas burned.

(1) Fuel gas combustion devices having a common source of fuel gas may be monitored for sulfur content at one location, if monitoring at that location is representative of the sulfur content of the fuel gas being burned in any fuel gas combustion device.

(2) The CFGMS shall meet the performance requirements in Performance Specification 2 in Appendix B to 40 CFR part 60, and the following:

(i) Continuously monitor and record the concentration by volume of total sulfur compounds in the gaseous fuel reported as ppmv H<sub>2</sub>S.

(ii) Have the span value set so that the majority of readings fall between 10 and 95% of the range.

(iii) Record negative values of zero drift.

(iv) Calibration drift shall be 5.0% of the span.

(v) Methods 15A, 16, or approved alternatives for total sulfur, are the reference methods for the relative accuracy test. The relative accuracy test shall include a bias test in accordance with paragraph 4(c) of this section.

(3) All continuous fuel flow meters shall comply with the applicable provisions of Appendix D to 40 CFR part 75.

(4) The hourly mass SO<sub>2</sub> emissions shall be calculated using the following equation:

$$E = (C_S)(Q_f)(K)$$

where:

$E$  = SO<sub>2</sub> emissions in lbs/hr

$C_S$  = Sulfur content of the fuel gas as H<sub>2</sub>S(ppmv)

$Q_f$  = Fuel gas flow rate (scfh)

$K$  =  $1.660 \times 10^{-7}$  (lb/scf)/ppmv

(b) In place of a CFGMS in paragraph (a) of this Section 2, fuel gas combustion devices having a common source of fuel gas may be monitored with an SO<sub>2</sub> CEMS and flow CEMS at only one location, if the CEMS monitoring at that location is representative of the SO<sub>2</sub> emission rate (lb SO<sub>2</sub>/scf fuel gas burned) of all applicable fuel gas combustion devices. Continuous fuel flow meters shall be used in accordance with paragraph (b), and the fuel gas combustion device monitored by a CEMS shall have separate fuel metering.

(1) Each CEMS for SO<sub>2</sub> and flow shall comply with the operating requirements, performance specifications, and quality assurance requirements of 40 CFR part 75.

(2) All continuous fuel flow meters shall comply with the applicable provisions of Appendix D to 40 CFR part 75.

(3) The SO<sub>2</sub> mass emissions for all the fuel gas combustion devices monitored by this approach shall be determined by the ratio of the amount of fuel gas burned by the CEMS-monitored fuel gas combustion device to the total fuel gas burned by all applicable fuel gas combustion devices using the following equation:

$$E_t = (E_m)(Q_t)/(Q_m)$$

where:  $E_t$  = Total SO<sub>2</sub> emissions in lbs/hr from applicable fuel gas combustion devices.

$E_m$  = SO<sub>2</sub> emissions in lbs/hr from the CEMS-monitored fuel gas combustion device.

$Q_t$  = Fuel gas flow rate (scfh) from applicable fuel gas combustion devices.

$Q_m$  = Fuel gas flow rate (scfh) from the CEMS-monitored fuel gas combustion device.

(c) In place of a CFGMS in paragraph (a) of this section, fuel gas combustion devices having a common source of fuel gas may be monitored with an SO<sub>2</sub> - diluent CEMS at only one location, if the CEMS monitoring at that location is representative of the SO<sub>2</sub> emission rate (lb SO<sub>2</sub>/mmBtu) of all applicable fuel gas combustion devices. If this option is selected, the owner or operator shall conduct fuel gas sampling and analysis for gross calorific value (GCV), and

shall use continuous fuel flow metering in accordance with paragraph (a) of this Section 2, with separate fuel metering for the CEMS-monitored fuel gas combustion device.

(1) Each SO<sub>2</sub>-diluent CEMS shall comply with the applicable provisions for SO<sub>2</sub> monitors and diluent monitors in 40 CFR part 75, and shall use the procedures in section 3 of Appendix F to part 75 for determining SO<sub>2</sub> emission rate (lb/mmBtu) by substituting the term SO<sub>2</sub> for NO<sub>x</sub> in that section.

(2) All continuous fuel flow meters and fuel gas sampling and analysis for GCV to determine the heat input rate from the fuel gas shall comply with the applicable provisions of Appendix D to 40 CFR part 75.

(3) The SO<sub>2</sub> mass emissions for all the fuel gas combustion devices monitored by this approach shall be determined by the ratio of the fuel gas heat input to the CEMS-monitored fuel gas combustion device to the total fuel gas heat input to all applicable fuel gas combustion devices using the following equation:

$$E_t = (E_m)(H_t)/(H_m)$$

where:  $E_t$  = Total SO<sub>2</sub> emissions in lbs/hr from applicable fuel gas combustion devices.

$E_m$  = SO<sub>2</sub> emissions in lb/mmBtu from the CEMS - monitored fuel gas combustion device.

$H_t$  = Fuel gas heat input (mmBtu/hr) from applicable fuel gas combustion devices.

$H_m$  = Fuel gas heat input (mmBtu/hr) from the CEMS - monitored fuel gas combustion device.

### 3. Certification/Recertification Requirements

All monitoring systems are subject to initial certification and recertification testing as follows:

(a) The owner or operator shall comply with the initial testing and calibration requirements in Performance Specification 2 in Appendix B of 40 CFR part 60 and paragraph 2 (a)(2) of this section for each CFGMS.

(b) Each CEMS for SO<sub>2</sub> and flow or each SO<sub>2</sub>-diluent CEMS shall comply with the testing and calibration requirements specified in 40 CFR part 75, section 75.20 and Appendices A and B, except that each SO<sub>2</sub>-diluent CEMS shall meet the relative accuracy requirements for a NO<sub>x</sub>-diluent CEMS (lb/mmBtu).

(c) A continuous fuel flow meter shall comply with the testing and calibration requirements in 40 CFR part 75, Appendix D.

### 4. Quality Assurance/Quality Control Requirements

(a) A quality assurance/quality control (QA/QC) plan shall be developed and implemented for each CEMS for SO<sub>2</sub> and flow or the SO<sub>2</sub>-diluent CEMS in compliance with Appendix B of 40 CFR part 75.

(b) A QA/QC plan shall be developed and implemented for each continuous fuel flow meter and fuel sampling and analysis in compliance with Appendix B of 40 CFR part 75.

(c) A QA/QC plan shall be developed and implemented for each CFGMS in compliance with sections 1 and 1.1 of Appendix B of 40 CFR part 75, and the following:

(1) Perform a daily calibration error test of each CFGMS at two gas concentrations, one low level and one high level. Calculate the calibration error as described in Appendix A to 40 CFR part 75. An out of control period occurs whenever the error is greater than 5.0% of the span value.

(2) In addition to the daily calibration error test, an additional calibration error test shall be performed whenever a daily calibration error test is failed, whenever a monitoring system is returned to service following repairs or corrective actions that may affect the monitor measurements, or after making manual calibration adjustments.

(3) Perform a linearity test once every operating quarter. Calculate the linearity as described in Appendix A to 40 CFR part 75. An out of control period occurs whenever the linearity error is greater than 5.0 percent of a reference value, and the absolute value of the difference between average monitor response values and a reference value is greater than 5.0 ppm.

(4) Perform a relative accuracy test audit once every four operating quarters. Calculate the relative accuracy as described in Appendix A to 40 CFR part 75. An out of control period occurs whenever the relative accuracy is greater than 20.0% of the mean value of the reference method measurements.

(5) Using the results of the relative accuracy test audit, conduct a bias test in accordance with Appendix A to 40 CFR part 75, and calculate and apply a bias adjustment factor if required.

## 5. Missing Data Procedures

(a) For any period in which valid data are not being recorded by an SO<sub>2</sub> CEMS or flow CEMS specified in this section, missing or invalid data shall be replaced with substitute data in accordance with the requirements in Subpart D of 40 CFR part 75.

(b) For any period in which valid data are not being recorded by an SO<sub>2</sub>-diluent CEMS specified in this section, missing or invalid data shall be replaced with substitute data on a rate basis (lb/mmBtu) in accordance with the requirements for SO<sub>2</sub> monitors in Subpart D of 40 CFR part 75.

(c) For any period in which valid data are not being recorded by a continuous fuel flow meter or for fuel gas GCV sampling and analysis specified in this section, missing or invalid data shall be replaced with substitute data in accordance with missing data requirements in Appendix D to 40 CFR part 75.

(d) For any period in which valid data are not being recorded by the CFGMS specified in this section, hourly missing or invalid data shall be replaced with substitute data in accordance with the missing data requirements for units performing hourly gaseous fuel sulfur sampling in section 2.4 of Appendix D to 40 CFR part 75.

## 6. Monitoring Plan and Reporting Requirements

In addition to the general monitoring plan and reporting requirements of Section 2(h) of Chapter 14, the owner or operator shall meet the following additional requirements:

(a) The monitoring plan shall identify each group of units that are monitored by a single monitoring system under this Protocol WEB-1, and the plan shall designate an identifier for the group of units for emissions reporting purposes. For purpose of submitting emissions reports, no apportionment of emissions to the individual units within the group is required.

(b) If the provisions of paragraphs 2(b) or (c) are used, provide documentation and an explanation to demonstrate that the SO<sub>2</sub> emission rate from the monitored unit is representative of the rate from non-monitored units.

### **Protocol WEB-2: Predictive Flow Monitoring Systems for Kilns with Positive Pressure Fabric Filter**

#### 1. Applicability

The provisions of this protocol are applicable to cement kilns or lime kilns that (1) are controlled by a positive pressure fabric filter, and (2) have operating conditions upstream of the fabric filter that the WEB source documents would reasonably prevent reliable flow monitor measurements.

#### 2. Monitoring Requirements

(a) A cement or lime kiln with a positive pressure fabric filter shall use a predictive flow monitoring system (PFMS) to determine the hourly kiln exhaust gas flow.

(b) A PFMS is the total equipment necessary for the determination of exhaust gas flow using process or control device operating parameter measurements and a conversion equation, a graph, or computer program to produce results in cubic feet per hour.

(c) The PFMS shall meet the following performance specifications:

(1) The PFMS must allow for the automatic or manual determination of failed monitors. At a minimum a daily determination must be performed.

(2) The PFMS shall have provisions to check the calibration error of each parameter that is individually measured. The owner or operator shall propose appropriate performance specifications in the initial monitoring plan for all parameters used in the PFMS comparable to the degree of accuracy required for other monitoring systems used to comply with this Rule. The parameters shall be tested at two levels, low: 0 to 20% of full scale, and high: 50 to 100% of full scale. The reference value need not be certified.

(3) The relative accuracy of the PFMS must be  $\leq 10.0\%$  of the reference method average value, and include a bias test in accordance with paragraph 4(c) of this section.

### 3. Certification Requirements

The PFMS is subject to initial certification testing as follows:

(a) Demonstrate the ability of the PFMS to identify automatically or manually a failed monitor.

(b) Provide evidence of calibration testing of all monitoring equipment. Any tests conducted within the previous 12 months of operation that are consistent with the QA/QC plan for the PFMS are acceptable for initial certification purposes.

(c) Perform an initial relative accuracy test over the normal range of operating conditions of the kiln. Using the results of the relative accuracy test audit, conduct a bias test in accordance with Appendix A to 40 CFR part 75, and calculate and apply a bias adjustment factor if required.

### 4. Quality Assurance/Quality Control Requirements

A QA/QC plan shall be developed and implemented for each PFMS in compliance with sections 1 and 1.1 of Appendix B of 40 CFR part 75, and the following:

(a) Perform a daily monitor failure check.

(b) Perform calibration tests of all monitors for each parameter included in the PFMS. At a minimum, calibrations shall be conducted prior to each relative accuracy test audit.

(c) Perform a relative accuracy test audit and accompanying bias test once every four operating quarters. Calculate the relative accuracy (and bias adjustment factor) as described in Appendix A to 40 CFR part 75. An out of control period occurs whenever the flow relative accuracy is greater than 10.0% of the mean value of the reference method.

### 5. Missing Data

For any period in which valid data are not being recorded by the PFMS specified in this section, hourly missing or invalid data shall be replaced with substitute data in accordance with the flow monitor missing data requirements for non-load based units in Subpart D of 40 CFR part 75.

## 6. Monitoring Plan Requirements

In addition to the general monitoring plan requirements of Section 2(h) of Chapter 14, the owner or operator shall meet the following additional requirements:

(a) The monitoring plan shall document the reasons why stack flow measurements upstream of the fabric filter are unlikely to provide reliable flow measurements over time.

(b) The initial monitoring plan shall explain the relationship of the proposed parameters and stack flow, and discuss other parameters considered and the reasons for not using those parameters in the PFMS. The State of Wyoming may require that the subsequent monitoring plan include additional explanation and documentation for the reasonableness of the proposed PFMS.

**Appendix C: Fire Programs**

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
STANDARDS AND REGULATIONS  
CHAPTER 10  
SMOKE MANAGEMENT

Section 4. Smoke management requirements.

(a) **Effective Date.** The requirements of this Section are effective for planned burn projects conducted and unplanned fire events that occur on or after January 1, 2005.

(b) **Definitions.** The following definitions apply to Chapter 10, Section 4. Unless defined differently below, the meaning of the terms used in this section is the same as in Chapter 1, Section 3 of these regulations.

(i) **“Alternatives to burning”** means manual, mechanical, chemical or biological treatments designed to replace the use of fire to manage vegetation.

(ii) **“Burner”** means the individual, agency, organization, land manager or landowner who is responsible for conducting a planned burn project.

(iii) **“Class I Area”** means all mandatory Class I Federal areas established in the Clean Air Act of 1977 and include the following for the State of Wyoming: Yellowstone National Park, Grand Teton National Park, North Absaroka Wilderness, Washakie Wilderness, Teton Wilderness, Bridger Wilderness and Fitzpatrick Wilderness. Such term also includes the Savage Run Wilderness, which is not a mandatory Class I Federal area, and any future Class I area redesignated in accordance with Chapter 6, Section 4(d) of these regulations.

(iv) **“Emission reduction technique”** means manual, mechanical, chemical or biological treatments used in conjunction with fire to minimize emissions, including, but not limited to, methods that minimize the burn area, reduce the fuel load, or increase the efficiency of combustion.

(v) **“Jurisdictional fire authority”** means an agency, organization or department whose purpose is to prevent, manage, and/or suppress fires in a designated geographic area, including, but not limited to, volunteer fire departments, fire districts, municipal fire departments and federal fire staff.

(vi) **“Land manager”** means an individual, agency or organization that has the overall land and/or resource management responsibility.

(vii) **“Monitoring”** means repeated observations (i.e., visual) or measurements (i.e., instrument) to evaluate changes in smoke affecting ambient air quality and/or visibility. Monitoring can be documented, which involves collection and analysis of the observations and/or measurements.

(viii) “**Nonattainment Area**” means any geographic area of the United States, which has been designated as nonattainment under § 107 of the Clean Air Act and described in 40 CFR Part 81.

(ix) “**Pile volume**” means the quantity in cubic feet of vegetative materials that have been manually or mechanically relocated and heaped together, as calculated using pile shape and overall dimensions.

(x) “**Planned burn project**” means burn area(s) or pile(s) of vegetative material that are being treated or managed utilizing planned fire for the same management objectives and that are on a contiguous land area.

(xi) “**Population**” means all individuals, other than the burner, occupying a fixed area. Fixed areas include, but are not limited to, portions of property normally occupied as residential, recreational, institutional, commercial, or educational premises, but do not include fixed areas under control of the burner.

(xii) “**Public notification**” means a method that communicates information regarding planned burn projects or unplanned fire events to the public.

(xiii) “**SMP**” means the Smoke Management Program that specifies requirements for planned burn projects (SMP-I and SMP-II) and unplanned fire events. Irrigation district burn projects are by definition SMP-I planned burn projects.

(xiv) “**Unplanned fire**” means any vegetative fire ignited by natural causes such as lightning and human causes such as accidental ignitions, escaped prescribed fire or arson; irrespective of the management objectives.

(xv) “**Vegetative material**” means untreated unprocessed wood, including, but not limited to, trees, tree stumps, tree limbs, bark, chips, duff, grass, grass clippings, leaves, conifer needles, bushes, shrubs, weeds, clippings from bushes and shrubs, and agricultural plant residue.

(xvi) “**Ventilation category**” means the classification describing the potential for smoke or other pollutants to disperse from its source, and that is expressed in terms of Excellent, Very Good, Good, Fair or Poor.

(c) **Applicability.** The provisions of Chapter 10, Section 4 are applicable to burners who conduct, and jurisdictional fire authorities responsible for, the following:

(i) Planned burn projects of vegetative material that exceed 0.25 tons of PM<sub>10</sub> emissions per day. When areas or piles are on a contiguous land area and will be burned on the same day and by the same burner for the same management objectives, the sum of these areas or piles constitutes the daily burn area or daily pile volume.

(ii) Unplanned fire events that exceed 50 acres.

***(d) Materials allowed to be burned.*** Only vegetative material shall be burned.

***(e) Compliance with requirements.***

***(i)*** The burner and responsible jurisdictional fire authority shall comply with all rules and regulations of the Wyoming Department of Environmental Quality, Division of Air Quality, and with the Wyoming Environmental Quality Act.

***(ii)*** Authorized representatives of the Division shall be given permission by the burner or responsible jurisdictional fire authority to enter and inspect a property, premise or place on or at which a planned burn project or unplanned fire event is or was located solely for the purpose of investigating actual sources of air pollution, and for determining compliance or non-compliance with any applicable rules, regulations, standards or orders. This permission shall extend for a maximum time of ten business days after the completed reporting form is received by the Division. Site inspections during this period shall be initiated only after notification of the burner conducting the planned burn project or the jurisdictional fire authority responsible for the unplanned fire event.

***(iii)*** Nothing in this Section shall relieve any burner or responsible jurisdictional fire authority of the responsibility to comply with all applicable local, state and federal laws, regulations and ordinances.

***(iv)*** Nothing in this Section shall relieve any burner or responsible jurisdictional fire authority of the responsibility to comply with any lawfully issued restriction on burning.

***(v)*** Nothing in this Section is intended to address safety issues related to the use of fire, which fall under the control of jurisdictional fire authorities.

***(f) SMP-I. For all burners whose planned burn project exceeds the thresholds in Subsection (c)(i) and is projected to generate less than two tons of PM<sub>10</sub> emissions per day, all of the following shall apply.***

***(i)*** For each planned burn project, the burner shall notify the Division prior to the ignition of the planned burn project, in accordance with the notification process approved by the Administrator of the Division. This notification shall include the burner contact information, the location of the planned burn project, and other information required by the Administrator of the Division.

***(ii)*** The burner shall communicate burn information to the public, in accordance with the public information process approved by the Administrator of the Division, utilizing all of the following:

***(A)*** Prior to the ignition of each planned burn project, notify the jurisdictional fire authority(ies) responsible for the geographic area in which the planned burn project is to occur.

(B) When there is a population within a 0.5-mile radius of the planned burn project, conduct public notification no sooner than 30 days and no later than two days in advance of the ignition of the planned burn project. Documentation of public notification shall be submitted on the reporting form required in Subsection (f)(v). When it can be shown that the population within a 0.5-mile radius of the planned burn project is in an area of low population density, compliance with Subsection (f)(ii)(A) shall satisfy this requirement. An average of one dwelling unit per ten acres shall be used as the definition of areas of low population density.

(iii) The burner shall only ignite a planned burn project when smoke will disperse from its source. To satisfy this requirement, the burner shall ignite the planned burn project during the daytime hours, when there is a slight breeze and there is no population within 0.5 mile of the planned burn project in the downwind trajectory. The burner may request a waiver of any part of this requirement from the Administrator of the Division. The burner shall document in writing the reasons for requesting the waiver, and must receive a waiver granted by the Administrator of the Division prior to ignition of the planned burn project. The Administrator of the Division shall consider such waiver requests on a case-by-case basis.

(iv) The burner shall attend and observe each planned burn project periodically to determine the dispersion, direction, and impacts of the smoke.

(v) For each planned burn project, the burner shall submit to the Division a completed reporting form, provided by the Division, no later than six weeks following completion of the planned burn project.

**(g) SMP-II. For all burners whose planned burn project exceeds the thresholds in Subsection (c)(i) and is projected to generate greater than or equal to two tons of PM<sub>10</sub> emissions per day, all of the following shall apply.**

(i) For each planned burn project, the burner shall submit to the Division a completed registration form, provided by the Division, by January 31 or no later than two weeks prior to the ignition of the planned burn project. The completed registration form shall include documentation of all of the following:

(A) The burner shall have reviewed smoke management educational material supplied by the Division or completed a smoke management training program prior to initiating a planned burn project.

(B) The burner shall consider the use of alternatives to burning for each planned burn project, and document the consideration of such alternatives in the method approved by the Administrator of the Division.

(C) The burner shall implement a minimum of one emission reduction technique for each planned burn project. The burner may request a waiver of this requirement from the Administrator of the Division. The burner shall document in writing the reasons for requesting the waiver, and must receive a waiver granted by the Administrator of the Division prior to the ignition of the planned burn project. The Administrator of the Division shall consider

such waiver requests on a case-by-case basis.

(D) The burner shall only ignite a planned burn project when smoke will disperse from its source. To satisfy this requirement, the burner shall utilize one of the following options:

(I) Ignite the planned burn project during times when the ventilation category is “Good” or better. The ventilation category shall be obtained from a source approved by the Administrator of the Division.

(II) Ignite the planned burn project during times when the ventilation category is “Fair” if there is no population within 10 miles of the planned burn project in the downwind trajectory. The ventilation category shall be obtained from a source approved by the Administrator of the Division. The burner may request a waiver of any part of this requirement from the Administrator of the Division. The burner shall document in writing the reasons for requesting the waiver, and must receive a waiver granted by the Administrator of the Division prior to ignition of the planned burn project. The Administrator of the Division shall consider such waiver requests on a case-by-case basis.

(E) The burner shall conduct monitoring utilizing all of the following:

(I) For each planned burn project, conduct and document visual monitoring, in accordance with the visual monitoring process approved by the Administrator of the Division, to determine the dispersion, direction, and impacts of the smoke. Documentation of visual monitoring shall be submitted on the reporting form required in Subsection (g)(iv).

(II) When there is a population or Nonattainment Area within 10 miles of the planned burn project in the downwind trajectory, the burner may, on a case-by-case basis, be required by the Administrator of the Division to conduct and document ambient air quality monitoring. The results and documentation of any required ambient air quality monitoring shall be submitted with the reporting form required in Subsection (g)(iv).

(III) When there is a Class I Area within 30 miles of the planned burn project in the downwind trajectory, the burner may, on a case-by-case basis, be required by the Administrator of the Division to conduct and document ambient air quality and/or visibility monitoring. The results and documentation of any required ambient air quality and/or visibility monitoring shall be submitted with the reporting form required in Subsection (g)(iv).

(ii) For each planned burn project, the burner shall notify the Division prior to the ignition of the planned burn project, in accordance with the notification process approved by the Administrator of the Division. This notification shall include the planned burn project identification information, planned burn date(s), daily burn area or daily pile volume, and other information required by the Administrator of the Division. For each planned burn project, all of the following shall apply.

(A) The burner shall not exceed the daily burn area or daily pile volume that the burner specified in the notification.

(B) The Division shall contact the burner prior to the ignition of the planned burn project, in accordance with the modification process approved by the Administrator of the Division, if a modification of the planned burn project is required. If a representative of the Division does not contact the burner, the burner may proceed with the planned burn project.

(iii) The burner shall communicate burn information to the public, in accordance with the public information process approved by the Administrator of the Division, utilizing all of the following:

(A) Prior to the ignition of each planned burn project, notify the jurisdictional fire authority(ies) responsible for the geographic area in which the planned burn project is to occur.

(B) When there is a population within a 10-mile radius of the planned burn project, conduct public notification no sooner than 30 days and no later than two days in advance of the ignition of the planned burn project. Documentation of public notification shall be submitted on the reporting form required in Subsection (g)(iv).

(iv) For each planned burn project, the burner shall submit to the Division a completed reporting form, provided by the Division, no later than six weeks following completion of the planned burn project.

**(h) Long-term planning.** Long-term planning shall be required for the burner and/or land manager whose total planned burn projects in a year are projected to generate greater than 100 tons of PM<sub>10</sub> emissions. The burner and/or land manager shall submit a written report to the Administrator of the Division by January 31 every third year starting in 2005. The written report shall include documentation of all of the following:

(i) The long-term burn estimates for the next three years, including the location, burn area or pile volume, vegetation type, and type of burn for each planned burn project.

(ii) The alternatives to burning considered and utilized during the previous three years and planned for the next three years, including the location and area of treatment(s), the vegetation type(s), and the specific technique(s).

(i) **Unplanned fire.** For the jurisdictional fire authority responsible for each unplanned fire event that exceeds 50 acres, all of the following shall apply. When it can be shown that the responsible jurisdictional fire authority is a volunteer fire organization, only Subsection (i)(iii) shall apply.

(i) The responsible jurisdictional fire authority shall communicate fire information to the public, in accordance with the public information process approved by the Administrator of the Division, utilizing all of the following:

(A) For each unplanned fire event, notify the jurisdictional fire authority(ies) responsible for the geographic area in which the unplanned fire event is occurring.

(B) When there is a population within a 10-mile radius of the unplanned fire event, conduct public notification. Documentation of public notification shall be submitted on the reporting form required in Subsection (i)(iii).

(ii) The responsible jurisdictional fire authority shall conduct monitoring utilizing all of the following:

(A) For each unplanned fire event, conduct and document visual monitoring, in accordance with the visual monitoring process approved by the Administrator of the Division, to determine the dispersion, direction, and impacts of the smoke. Documentation of visual monitoring shall be submitted on the reporting form required in Subsection (i)(iii).

(B) When there is a population or Nonattainment Area within 10 miles of the unplanned fire event in the downwind trajectory, the responsible jurisdictional fire authority may, on a case-by-case basis, be required by the Administrator of the Division to conduct and document ambient air quality monitoring. The results and documentation of any required ambient air quality and/or visibility monitoring shall be submitted with the reporting form required in Subsection (i)(iii).

(C) When there is a Class I Area within 30 miles of the unplanned fire event in the downwind trajectory, the responsible jurisdictional fire authority may, on a case-by-case basis, be required by the Administrator of the Division to conduct and document ambient air quality and/or visibility monitoring. The results and documentation of any required ambient air quality and/or visibility monitoring shall be submitted with the reporting form required in Subsection (i)(iii).

(iii) For each unplanned fire event, the responsible jurisdictional fire authority shall annually submit to the Division a completed reporting form, provided by the Division, no later than December 31.

(iv) When an unplanned fire event is managed to accomplish specific pre-stated management objectives in a predefined geographic area, all of the following shall also apply.

(A) The responsible jurisdictional fire authority shall review smoke management educational material supplied by the Division or complete a smoke management training program.

(B) The Division shall contact the responsible jurisdictional fire authority, in accordance with the modification process approved by the Administrator of the Division, if a modification of the management strategy for the unplanned fire event is necessary to mitigate smoke impacts. If a representative of the Division does not contact the responsible jurisdictional

fire authority, the responsible jurisdictional fire authority may proceed with the management strategy.

**(j)** The following are not subject to subsections 4(e)(ii), 4(f)(i), 4(f)(ii)(B), and 4(f)(v) of Chapter 10, Section 4:

**(i)** Planned burning of vegetative materials incident to:

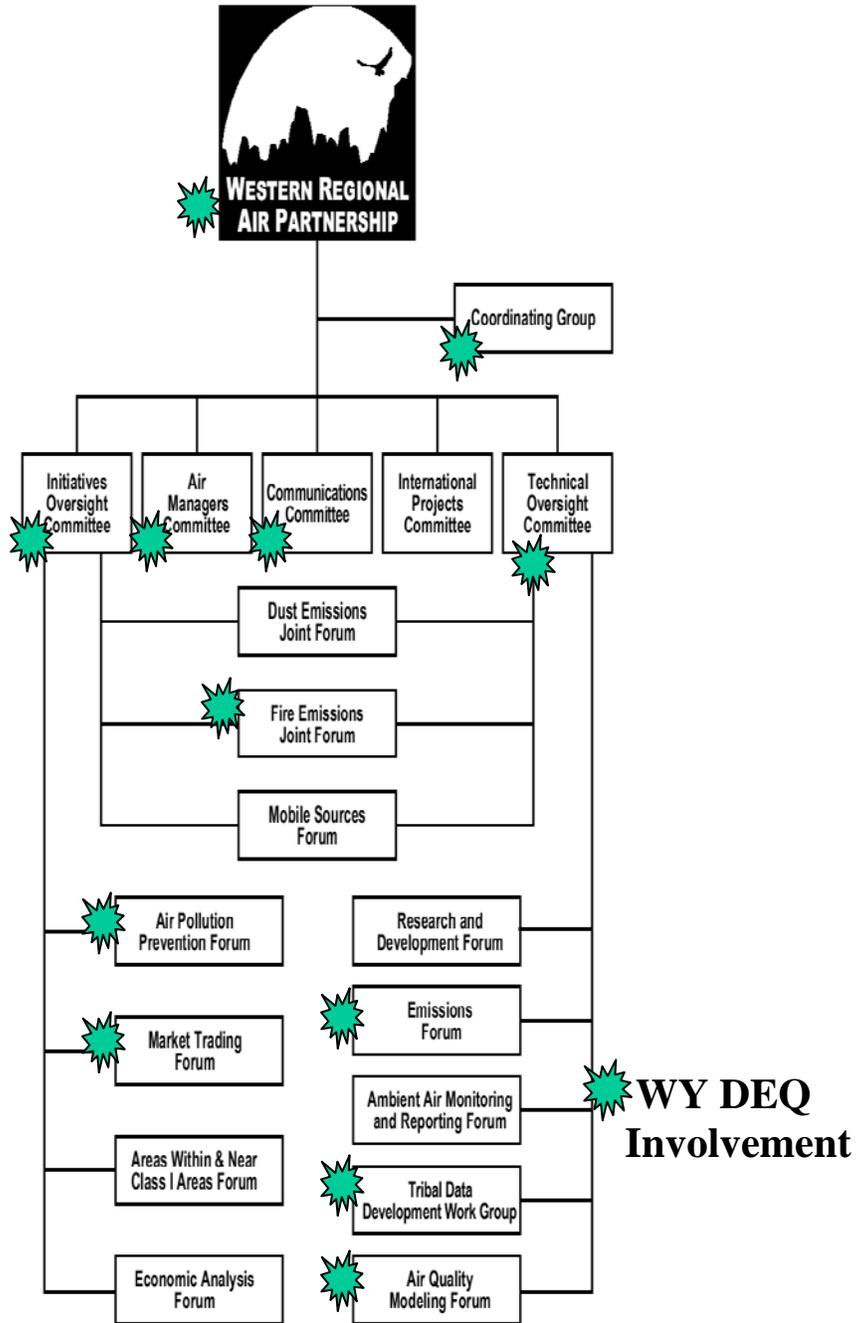
- (A) Weeds along fence lines;
- (B) Weed growth in and along ditch banks incident to clearing ditches for irrigation purposes;
- (C) Vegetative materials related to agricultural croplands.
- (D) Vegetative materials related to rangeland and/or pasturelands, if the project area is less than 68 acres.

**(ii)** The following planned burn projects do not fall under this exemption:

- (A) Vegetative materials related to rangeland and/or pasture lands, unless exempted by 4(j)(i)(D).

**(iii)** The burner not subject to regulation under Section (j)(i) shall provide vegetative burn data requested by the Administrator in a periodic survey of agricultural burning practices.

## Appendix D: Interstate and Regional Coordination



**Appendix E: Demonstration that the SO<sub>2</sub> Milestones Provide Greater Reasonable Progress than BART**

# **Demonstration that the SO<sub>2</sub> Milestones Provide Greater Reasonable Progress than BART**

## **A. Background**

In 1996 the Grand Canyon Visibility Transport Commission (GCVTC) submitted recommendations to EPA to improve visibility in the 16 Class I areas on the Colorado Plateau. The GCVTC concluded that a broad-based approach that addressed multiple pollutants and source categories was necessary to reduce regional haze. The report recommended a series of strategies to address stationary sources, mobile sources, fire, pollution prevention, fugitive dust, and clean air corridors.

On July 1, 1999 the Environmental Protection Agency (EPA) published regulations to address regional haze visibility impairment. The regulations required States to address Best Available Retrofit Technology (BART) requirements for regional haze visibility impairment, and allowed nine western states to develop plans that were based on the GCVTC recommendations for stationary sources in lieu of BART.

In 2000, the Western Regional Air Partnership (WRAP) submitted an Annex to the GCVTC recommendations that provided more details regarding the Regional SO<sub>2</sub> Milestones and Backstop Trading Program that had been recommended in the GCVTC Report, and included a demonstration that the milestones achieved greater reasonable progress than would have been achieved by the application of BART in the region. The Annex was approved by EPA in 2003, but this approval was later vacated by the DC Circuit Court of Appeals in 2005 due to problems with the methodology that was required in the regional haze rule for demonstrating greater reasonable progress than BART.<sup>2</sup>

On July 6, 2005 EPA revised the regional haze rule in response to the judicial challenges to the BART requirements. On October 13, 2006 EPA published additional revisions to address alternatives to source-specific BART determinations.

Five western states (Arizona, New Mexico, Oregon, Utah, and Wyoming) and the City of Albuquerque had submitted State Implementation Plans (SIPs) in 2003 under 40 CFR §51.309. Three of those states (New Mexico, Utah, and Wyoming) and the City of Albuquerque plan to update their SIPs to include new milestones that are based on more recent emission inventories as well as the revised BART requirements in the Regional Haze Rule. Arizona and Oregon are no longer participating in the program. This demonstration shows that the SO<sub>2</sub> milestones will achieve greater reasonable progress than would have been achieved from the installation and operation of BART at all sources subject to BART in the participating states in accordance with the revised Regional Haze Rule.

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<sup>2</sup> *Center for Energy and Economic Development v. EPA*, February 18, 2005; *American Corn Growers Association v. EPA*, May 24, 2002.

## B. RH Rule Requirements

40 CFR 51.309(d)(4) states, “The milestones must be shown to provide for greater reasonable progress than would be achieved by application of BART pursuant to §51.308(e)(2).”

40 CFR 51.308(e)

...(2) A State may opt to implement or require participation in an emissions trading program or other alternative measure rather than to require sources subject to BART to install, operate, and maintain BART. Such an emissions trading program or other alternative measure must achieve greater reasonable progress than would be achieved through the installation and operation of BART. For all such emission trading programs or other alternative measures, the State must submit an implementation plan containing the following plan elements and include documentation for all required analyses:

(i) A demonstration that the emissions trading program or other alternative measure will achieve greater reasonable progress than would have resulted from the installation and operation of BART at all sources subject to BART in the State and covered by the alternative program. This demonstration must be based on the following:

(A) A list of all BART-eligible sources within the State.

(B) A list of all BART-eligible sources and all BART source categories covered by the alternative program. The State is not required to include every BART source category or every BART-eligible source within a BART source category in an alternative program, but each BART-eligible source in the State must be subject to the requirements of the alternative program, have a federally enforceable emission limitation determined by the State and approved by EPA as meeting BART in accordance with section 302(c) or paragraph (e)(1) of this section, or otherwise addressed under paragraphs (e)(1) or (e)(4) of this section.

(C) An analysis of the best system of continuous emission control technology available and associated emission reductions achievable for each source within the State subject to BART and covered by the alternative program. This analysis must be conducted by making a determination of BART for each source subject to BART and covered by the alternative program as provided for in paragraph (e)(1) of this section, unless the emissions trading program or other alternative measure has been designed to meet a requirement other than BART (such as the core requirement to have a long-term strategy to achieve the reasonable progress goals established by States). In this case, the State may determine the best system of continuous emission control technology and associated emission reductions for similar types of sources within a source category based on both source-specific and category-wide information, as appropriate.

(D) An analysis of the projected emissions reductions achievable through the trading program or other alternative measure.

(E) A determination under paragraph (e)(3) of this section or otherwise based on the clear weight of evidence that the trading program or other alternative measure achieves greater reasonable progress than would be achieved through the installation and operation of BART at the covered sources.

## **C. Identification of BART-Eligible Sources and Sources Subject to BART.**

Establishing BART emission limitations under 40 CFR 51.308(e)(1) is a three-step process (70 FR 39106):

- States identify sources which meet the definition of BART eligible
- States determine which BART eligible sources are “subject to BART”
- For each source subject to BART the State identifies the appropriate control technology.

### **1. BART-Eligible Sources.**

Pursuant to 40 CFR 51.308(e)(2)(i), States submitting §309 SIPs are required to list all BART-eligible sources covered by the alternative program. BART-eligible sources are identified as those sources that fall within one of 26 specific source categories, were built between 1962 and 1977, and have potential emissions of at least 250 tons per year of any visibility impairing air pollutant (40 CFR 51.301). The BART-eligible sources identified by the three §309 States are shown in Table 1.

### **2. Subject to BART Determination.**

Pursuant to 40 CFR 51.308(e)(2)(i)(B) and (e)(1)(ii), States are required to determine which BART-eligible sources are “subject to BART.” BART-eligible sources are subject to BART if they emit any air pollutant that may reasonably be anticipated to cause or contribute to any impairment of visibility in any mandatory Class I federal area. §309 States have conducted individual source modeling to determine if a BART-eligible source causes or contributes to visibility impairment.

Two of the §309 States (New Mexico and Utah) utilized the technical modeling services of the WRAP Regional Modeling Center (RMC). Modeling was performed according to the RMC modeling protocols (CALMET/CALPUFF Protocol for BART Exemption Screening Analysis for Class I Areas in the Western United States). For the WRAP BART exemption screening modeling, the RMC followed the EPA BART Guidelines (EPA, 2005) and the applicable CALMET/CALPUFF modeling guidance (e.g., IWAQM, 1998; FLAG, 2000; EPA, 2003c) including EPA’s March 16, 2006 memorandum: “Dispersion Coefficients for Regulatory Air Quality Modeling in CALPUFF” (Atkinson and Fox, 2006).

The basic assumptions of the WRAP BART CALMET/CALPUFF modeling protocols are as follows.

- Three years (2001, 2002 and 2003) were modeled.
- Visibility impacts due to emissions of SO<sub>2</sub>, NO<sub>x</sub> and primary PM emissions were calculated.
- Visibility was calculated using the original IMPROVE equation and “Annual Average Natural Conditions”.
- The effective range of CALPUFF modeling was set at 300km from the sources.
- According to 40 CFR Part 51, Appendix Y (EPA BART Guidelines; EPA, 2005), a BART-eligible source is considered to “contribute” to visibility impairment in a Class I area if the modeled 98<sup>th</sup> percentile change in deciviews is equal to or greater than the “contribution threshold.”

- The threshold for visibility impact, for a single source, was a 0.5 deciview change or more to “contribute” to visibility impairment. This threshold is consistent with the EPA BART Guidelines (EPA, 2005) that states, “As a general matter, any threshold that you use for determining whether a source ‘contributes’ to visibility impairment should not be higher than 0.5 deciviews.” This threshold is also consistent with long-standing visibility modeling practices. States have the discretion to set a lower threshold, but the three participating states have not determined that a lower threshold is needed or justified.

The State of Wyoming performed modeling in-house that was also based on EPA BART Guidelines and the applicable CALMET/CALPUFF guidelines. The basic assumptions were the same as used in the RMC modeling with the following exception: meteorological data for 1995, 1996, and 2001 that were prepared for a previous modeling analysis were used for the southwest Wyoming modeling domain. Wyoming’s *BART Air Modeling Protocol*, September 2006, is posted at <http://deq.state.wy.us/aqd/BART.asp>.

**Table 1. Subject to BART Status for §309 BART-Eligible Sources**

State	Plant Name	Unit	BART Eligible	Subject to BART	Modeling Entity	BART Category
NM	Amoco Empire Abo	SRU Only	Y	N	WRAP	15
NM	SWPS Cunningham Station (Xcel Energy)	One Unit	Y	N	WRAP	01
NM	Duke Energy Artesia Gas Plant	SRU Only	Y	N	WRAP	15
NM	Duke Energy Linam Ranch Gas Plant	SRU Only	Y	N	WRAP	15
NM	Dynegy Saunders	SRU Only	Y	N	WRAP	15
NM	Giant Refining San Juan Refinery	Unit #1 FCCP ESP Stack	Y	N	WRAP	11
NM	Giant Refining, Ciniza Refinery	4 B&W CO Boiler	Y	N	WRAP	11
NM	SWPS Maddox Station (Xcel Energy)	One Unit	Y	N	WRAP	01
NM	Marathon Indian Basin Gas Plant	SRU Only	Y	N	WRAP	15
NM	PNM, San Juan	Units 1-4	Y	Y	WRAP	01
NM	Rio Grande Station	One Unit	Y	N	WRAP	01
NM	Western Gas Resources San Juan River Gas Plant	SRU Only	Y	N	WRAP	15
UT	PACIFICORP – Hunter Power Plant	Units 1-2	Y	Y	WRAP	01
UT	PACIFICORP – Huntington Power Plant	Units 1-2	Y	Y	WRAP	01
WY	BASIN ELECTRIC POWER COOP – LARAMIE RIVER	Units 1-3	Y	Y	WY DEQ	01
WY	BLACK HILLS POWER & LIGHT - NEIL SIMPSON I	Unit 1	Y	N	WY DEQ	01
WY	Dyno Nobel (formerly Coastal Chemical)	9 Units	Y	N	WY DEQ	10
WY	FMC CORP – GREEN RIVER SODA ASH PLANT	3 Units	Y	Y	WY DEQ	22
WY	FMC WYOMING CORP – GRANGER SODA ASH PLANT	2 Units	Y	N	WY DEQ	22
WY	GENERAL CHEMICAL – GREEN RIVER SODA ASH PLANT	2 Units	Y	Y	WY DEQ	22
WY	P4 PRODUCTION – ROCK SPRINGS COKING PLANT	1 Unit	Y	N	WY DEQ	22
WY	PACIFICORP – DAVE JOHNSTON	Units 3-4	Y	Y	WY DEQ	01
WY	PACIFICORP – JIM BRIDGER	Units 1-4	Y	Y	WY DEQ	01
WY	PACIFICORP – NAUGHTON	Units 1-3	Y	Y	WY DEQ	01

WY	PACIFICORP – WYODAK	Unit 1 (335 MW)	Y	Y	WY DEQ	01
WY	SINCLAIR OIL CORP-SINCLAIR REFINERY	16 Units	Y	N	WY DEQ	11
WY	SINCLAIR REFINERY – CASPER	1 Unit	Y	N	WY DEQ	11

#### D. Baseline Inventory for 2018

The Stationary Sources Joint Forum of the WRAP coordinated the development of a baseline inventory for 2018 that was used to update the SO<sub>2</sub> milestones for the 3-state region. The inventory was estimated as described below.

##### 1. Electric Generating Units (EGUs)

The methodology for projecting existing EGUs into the future involves the following steps:

- a) the electricity production (MWs) for each individual unit at a plant was determined from the Energy Information Administration [EIA] (data available for 2002-05)
- b) the electricity generation design maximum capacity (MWs) was determined for each individual unit from EIA data
- c) an operating Capacity Factor was determined by dividing the year specific production by the design maximum capacity of the each individual plant unit
- d) all individual units were assumed to be operating at 85% capacity in 2018 (unless they were already operating above this level in 2002)
- e) the Growth Ratio necessary to achieve 85% capacity was determined by dividing 0.85 by the Capacity Factor for each individual plant unit (averaged over four years)
- f) a Current Year Emission Factor (lb SO<sub>2</sub>/MMBtu) was calculated for the latest year of available EIA data (2006), using the actual reported emissions (tons SO<sub>2</sub>) for each individual plant unit divided by the actual reported annual heat generation (MMBtu)
- g) the 2018 Emission Factor was assumed to be the same as the current emission factor, except for a few sources that had a new permitted emission rate
- h) the 2018 Emission Rate (tons SO<sub>2</sub>) was calculated by multiplying current year emissions by the ratio of the 2018 to current year Emission Factors
- i) the Adjusted 2018 Emission Rate (tons SO<sub>2</sub>) was "grown" to 85% capacity by multiplying the 2018 Emission Rate by the Growth Ratio from Step e) (emissions from units already operating at or higher than the 85% capacity in the 2002 data year, were not grown, but accepted at face value)

##### 2. Permitted/Future EGUs

The PRP18b inventory is documented in the [ERG Final Technical Memorandum dated October 16, 2009](#). The Memorandum projects the need for 61.99 billion kWh of future coal-fired electricity generation between 2002 and 2018. Of this total, 36.37 billion kWh will be met by increased utilization of existing plants, and the addition of new plants that are already under construction. The remaining 25.62 billion kWh will be met by new coal plants in the WRAP region. The §309 States estimate that 25% of that total will be constructed in the 3-state region, with an emission estimate of 2,600 tons SO<sub>2</sub> by 2018.

a) Growth Estimates in 2008 SIPs.

The previous SO<sub>2</sub> milestones were finalized by the §309 States in the spring of 2008 and were adopted into the SIPs for Albuquerque, Utah, and Wyoming later that year. The milestones included a new source growth estimate of 20,000 tons SO<sub>2</sub> for utilities. This new source growth estimate was drawn from the PRP18a inventory that relied on the 2007 EIA projections. As part of the technical demonstration for the SIPs, the §309 States identified projects that were under construction or had been permitted that would have consumed about 10,000 tons of the new source set-aside.

b) Changes in Underlying Assumptions.

During the last two years there have been significant changes in the EIA projections for future growth of coal-fired electricity generation. The PRP18b inventory that is documented in the ERG Final Technical Memorandum dated October 16, 2009 has scaled back the projections of growth of coal-fired utilities. EPA has indicated that this more recent information calls into question the estimates for future growth in coal-fired generation in the current milestones. In addition, the State of Arizona has elected to develop a SIP under Section 308 of the Regional Haze Rule, further reducing the new source set-aside.

c) Updated New Source Growth Estimates.

The §309 States have reviewed the new Memorandum and have determined that the new source growth estimate should be reduced from 20,000 tons SO<sub>2</sub> to 6,600 tons SO<sub>2</sub>. Of this total, approximately 4,000 tons SO<sub>2</sub> can be attributed to new units in Wyoming that are currently operating, or have commenced construction (Wygen Units II and III, Dry Fork Station, and Two Elk Unit 1). This leaves a remaining estimate of new source growth that has not been attributed to a specific plant of 2,600 tons SO<sub>2</sub>.

This estimate is consistent with the 2009 ERG Final Technical Memorandum. As outlined in Table 3 of that Memorandum (summarized below) an additional 61.99 billion kWh of coal-fired electricity generation will be needed between 2002 and 2018.

**Future Coal-Fired Electricity Generation (billion kWh)**

258.7	2002 Electricity Generation
320.69	2018 Electricity Generation

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**61.99 Needed Generation****Future Coal-Fired Electricity Generation From Existing Sources, and Those Under Construction (billion kWh)**

16.6	Unused capacity at existing 2002 facilities
5.34	Capacity at post-2002 facilities
14.43	Estimated generation capacity of the 6 EGUs under construction

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**36.37 Total****25.62 New Source Growth Needed in WRAP Region (billion kWh)**

As shown above, 36.37 billion kWh can be met by the combination of unused capacity from existing sources plus new sources that are in operation or under construction (including the three plants in Wyoming that are described above). This leaves a remaining 25.62 billion kWh that would be met by new coal plants in the region.

The need for new source growth beyond what is already under construction is supported by estimates of future electricity demand in the region. For example, the Integrated Resource Plan submitted by PacifiCorp to the Utah Public Service Commission in May 2009 estimates a capacity deficit of 3,520 MW by 2018. The IRP meets that deficit through a combination of new natural gas-fired plants, renewable resources, and demand side management and does not include plans for new coal-fired generation. This is a change from the 2006 IRP (submitted in 2007), that included plans for new coal generation in Utah (340 MW) and Wyoming (527 MW) by 2018. However, the 2008 IRP also increased the estimated front office transactions (power purchased on the open market), from 249 MW in the 2006 IRP to 800 MW in the 2008 IRP for the year 2018. Because future demand exceeds existing capacity as shown in Table 3 of the ERG Final Technical Memorandum, it is reasonable to assume that new plants (including potential merchant plants built by other entities) will be needed to meet this demand for purchased power in 2018.

Table 4 in the Final Technical Memorandum identifies 8,880 MW that are being permitted in the region. The Memorandum states, “However, if 39% of the new coal-fired EGU plant capacity currently in the permitting process is brought on-line, then the 2008 coal-fired EIA projection for 2018 will be met.” (see page 7). Therefore, the estimate of future coal-fired EGUs in the 12-state region is 3,463 MW. Approximately 25% of the MWs listed in Table 4 as “being permitted” are located in Utah and Wyoming, therefore it is reasonable to estimate that 900 MWs (conservative emission estimate of 2,600 tons SO<sub>2</sub>) of future coal-fired EGUs be attributed to the §309 States.

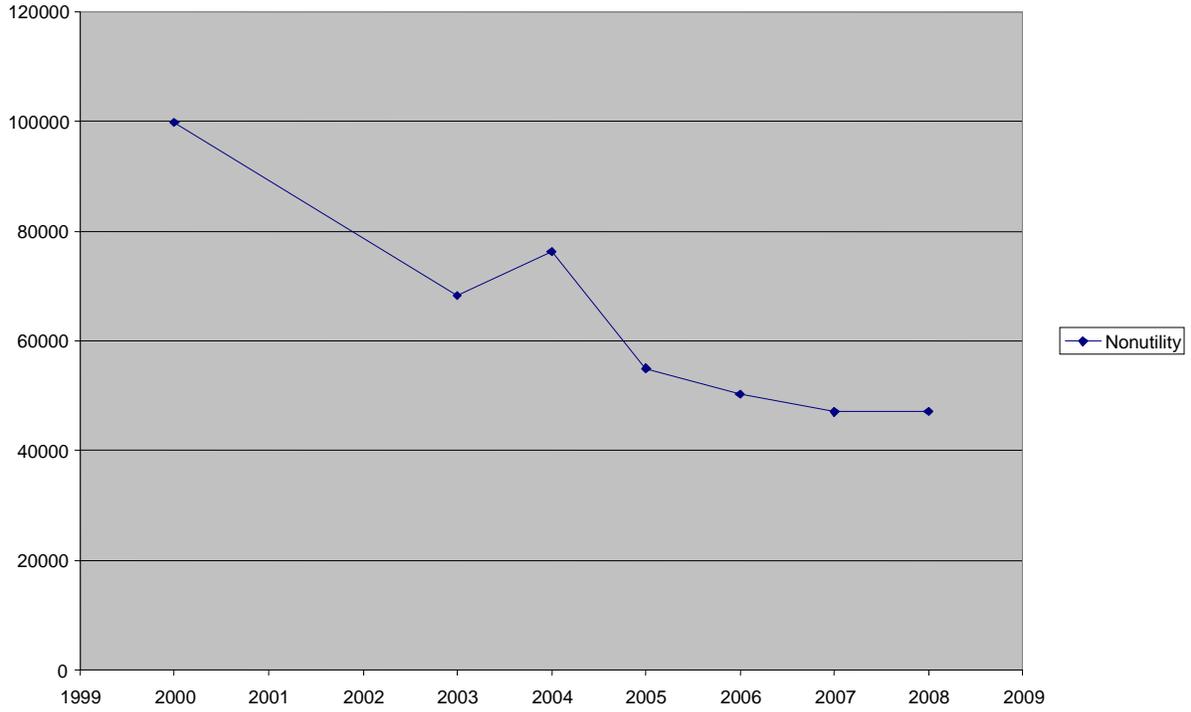
### 3. Non-EGUs

The Methodology for projecting emissions from "Other Industrial Sources" is described in E.H. Pechan's October 2006 Report, *2018 SO<sub>2</sub> Emissions Evaluation for Non-Utility Sources- Final*. The report is posted online at <http://www.wrapair.org/forums/ssjf/documents/eictts/projections.html>.

- a) The SO<sub>2</sub> emissions for 19 Natural Gas Processing Plants were updated by Environ in April 2007, with additional research into future O&G Operations. The September 2007 Final Report with results of that update is posted at <http://www.wrapair.org/forums/ssjf/documents/eictts/oilgas.html>.
- b) The 2005 SO<sub>2</sub> Milestone Report had some sources which were not picked up in the Pechan Report. In those cases, the 2005 emissions were used as a placeholder for the 2018 emission values.
- c) The projections do not specifically break out emissions from existing sources vs. new sources. For purposes of establishing a new source set-aside, 2006 emissions were assumed to be the baseline emissions for existing sources, and the projected increase in emissions between 2006 and 2018 is attributed to new source growth.

There have been steady SO<sub>2</sub> emission reductions from the non-utility sector since 1990. Several major sources were shut down, including two copper smelters (BHP San Manuel and Phelps Dodge Chino: 69,491 tons SO<sub>2</sub> in 1990) and a steel mill (Geneva Steel: 8,473 tons SO<sub>2</sub> in 1990). Kennecott Utah Copper reduced SO<sub>2</sub> emissions by 25,000 tons SO<sub>2</sub> during the mid-1990s. During this same time period, oil and gas production increased substantially in all three states requiring upgrades to processing plants and other facilities to address potential air quality problems. These upgrades have largely been completed, and it is anticipated that future emissions will reflect growing demand for natural gas in the Western US. As can be seen in Figure 1, emissions have leveled off in recent years and are likely to increase as the US emerges from a major recession in coming years. The 2006 EH Pechan Report describes in detail the methodology that was used to project future emissions for each source category.

**Non-utility SO<sub>2</sub> Emission Trends 2000-2008**



**Figure 1. Non-Utility Emission Trends**

Table 2 summarizes the projected 2018 baseline SO<sub>2</sub> emissions for the 3-state region.

**Table 2. 2018 Baseline**

	Projected 2018 SO <sub>2</sub> Emissions Baseline
Utility	128,409
Non-Utility	49,961
New Source Growth Utility	6,600
New Source Growth Non-Utility	5,686
Total 2018 Baseline	190,656

## **E. Estimated Emission Reductions Due to BART**

The SO<sub>2</sub> milestones and Backstop Trading Program were designed primarily to achieve reasonable progress towards meeting the long-term visibility goal. As outlined in the Regional Haze Rule, in cases where an alternative program has been designed to meet requirements other than BART, States are not required to make BART determinations under 40 CFR 51.308(e) and may use simplifying assumptions in establishing a BART benchmark based on an analysis of what BART is likely to be for similar types of sources within a source category. Emission estimates for 2018, assuming the application of BART for SO<sub>2</sub> on all subject-to-BART sources in the three states, were prepared and are compiled in a spreadsheet named “10-6-10\_milestone.xls” (see technical support documentation). The 2018 estimates for these sources are estimates of actual emissions and therefore reflect greater emission reductions than would be enforceable in a case-by-case BART permit. The methodology that was used to estimate these emission reductions is described below.

### **1. Utilities - Presumptive BART.**

All utilities that were determined to be subject to BART were assumed to be operating at the presumptive emission rate established in 40 CFR Part 51, Appendix Y (0.15 lb/MMBtu). Actual emissions at this presumptive emission rate were estimated for 2018.

### **2. Other Sources.**

The SO<sub>2</sub> milestones were primarily designed to achieve reasonable progress for all sources of SO<sub>2</sub> in the 3-state region and therefore the Regional Haze Rule allows States to use simplifying assumptions in establishing the BART benchmark. EPA has not established presumptive emission rates for non-utilities, therefore another approach was needed to estimate emission reductions from four boilers located at two trona facilities in SW Wyoming. Recent pollution control projects achieved a 63% reduction in SO<sub>2</sub> from two of the boilers, and represent reasonably stringent controls, considering the age and purpose of the facility. Therefore, the emission rate achieved by these projects is used as the BART benchmark for the four boilers.

#### **I. General Chemical Soda Ash Partners, Green River Plant**

##### **C Boiler**

Constructed in 1/74

Fuel Analysis for coal: 262,800 tons/year; 534 x 10<sup>6</sup> BTU/hr site rated capacity

Emission limit for SO<sub>2</sub> 1.2 lb/MMBtu; 640.8 lb/hr; 2806.7 TPY

##### **D Boiler**

Constructed in 1/75

Fuel Analysis for coal: 388,000 tons/year; 880 x 10<sup>6</sup> BTU/hr site rated capacity

Emission limit for SO<sub>2</sub> 1.2 lb/MMBtu; 1056.0 lb/hr; 4625.3 TPY

#### **II. FMC Wyoming Corporation Westvaco Facility**

##### **NS-1A**

Constructed in 1975

Modified 8/2007 (New chevron mist eliminators installed in venturi scrubber)

Fuel Analysis coal: 380,888 tons/year; 887 x 10<sup>6</sup> BTU/hr site rated capacity

Emission limit for SO<sub>2</sub> 0.54 lb/MMBtu;

NS-1B  
Constructed in 1975  
Modified 7/2008 (New chevron mist eliminators installed in venturi scrubber)  
Fuel Analysis coal: 380,888 tons/year; 887 x 10e6 BTU/hr site rated capacity  
Emission limit for SO<sub>2</sub> 0.54 lb/MMBtu

All four boilers were originally constructed in SW Wyoming for purposes of processing trona in the mid 1970's. As process units, these four boilers are subject to greater load swings than would be experienced at electric generating units which typically come up to full operating levels and stay there. All four boilers were at one time operating under emission limits of 1.2 lb/MMBtu. All four boilers are roughly the same size with site rated capacities between 880 MMBtu/hr and 887 MMBtu/hr except for the oldest boiler, C Boiler at General Chemical at Green River rated at 534 MMBtu/hr. All four boilers burn primarily coal with oil and gas used as start up fuels. All four units have been participating in the SO<sub>2</sub> Backstop Trading Program, reporting inventories annually as required by Wyoming Air Quality Standards and Regulations.

Two of the four units, NS-1A and NS-1B operated by FMC, sought early SO<sub>2</sub> reductions in 2007 and 2008, respectively, as participants in the §309 program. These two units reduced SO<sub>2</sub> emissions by 55 percent or 5,126 tons collectively, from both units. New chevron mist eliminators were installed on venturi scrubbers to accomplish this reduction. Since that time, FMC has reviewed additional reductions resulting in a total reduction from the 2018 baseline of 5,827 tons or an additional 701 tons. Total reduction from the 1.2 lb/MMBtu emission rate is a 63 percent removal rate. The State of Wyoming has reviewed these additional reductions and has determined that they represent reasonably stringent controls, considering the age and purpose of the facility.

In a similar fashion, the State has reviewed potential SO<sub>2</sub> reductions at the General Chemical facility at Green River and has concluded that a 63 percent removal rate is also appropriate for the two boilers located at that facility. As was mentioned above, these facilities are similar in age and purpose. General Chemical boilers C and D are currently permitted at 7,432 tons of SO<sub>2</sub> operating at 1.2 lb/MMBtu. The State would expect that reasonably stringent controls at this facility would result in a similar 63 percent reduction from the same starting point of 1.2 lb/MMBtu. Reviewing reductions from the 2018 milestone baseline, the General Chemical boilers would be looking at reducing emissions by 2,669 tons.

While the 2018 milestone baseline level is not the same for the two companies, the State has determined that equitable treatment of like facilities would require similar reductions from the two companies prior to the §309 program. Both companies would be reducing emissions from a starting point of 1.2 lb/MMBtu down to 0.45 lb/MMBtu. In the case of FMC, who made early reductions in the program, an additional 701-ton reduction is expected to be achieved. In the case of General Chemical, 2,669 tons will be achieved. The total reduction from both facilities has been estimated at 3,370 tons. The State has determined that these are reasonably stringent controls and the resulting emissions would serve as an adequate BART benchmark.

### 3. Summary.

The estimated emission reductions due to the application of BART in the §309 States are summarized in Table 3.

**Table 3. Emission Reduction Due to BART**

	2018 Baseline SO <sub>2</sub>	2018 SO <sub>2</sub> With BART	Emission Reduction Due to BART
Utilities	128,409	82,972	45,437
Non-Utilities	49,961	46,661	3,370
Total			48,807

### F. 2018 BART Benchmark

2018 Baseline	190,656
Estimated BART Reductions	-48,807
Total	141,849

### G. Milestones Provide Greater Reasonable Progress Than BART

The Regional SO<sub>2</sub> milestone of **141,849** equals the BART benchmark, but provides greater reasonable progress than BART for the reasons outlined below.

#### 1. Early Reductions.

The GCVTC recommended that the market trading program "contain specific provisions to encourage and reward early emission reductions, including reductions achieved before 2000."<sup>3</sup> The GCVTC committed to achieve a 13% reduction in SO<sub>2</sub> emissions from stationary sources by the year 2000. The GCVTC also recognized that there was a good possibility that actual emission reductions would be greater than this 13% goal. A general plan was derived to give some early reductions credit to the region and some to the environment. The emission reductions that were greater than 13% were to be split, with ½ going to the environment (through the establishment of milestones) and the other ½ providing headroom.<sup>4</sup>

Sulfur dioxide emissions decreased by 25% in the 9-state GCVTC region between 1990 and 2000, and SO<sub>2</sub> emissions in the three §309 states 33% in that same time period.

The regional milestones have been in effect since 2003 when the original five participating states submitted regional haze SIPs, as required by Section 309 of the Regional Haze Rule. The 2003 SIP was designed to provide flexibility so that sources could find the most cost-effective way to reduce SO<sub>2</sub> emissions, including over-controlling some plants while opting for lower cost

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<sup>3</sup> *Recommendations for Improving Western Vistas* at 33 (June 1996).

<sup>4</sup> *Id.* at 34.

controls at other plants. The 2003 SIP was also designed to encourage early reductions by providing an extra allocation for sources that made reductions prior to the program trigger year. The 2003 SIP influenced the long-term planning for sources in the region, and utilities began upgrading plants based on the provisions of the SIP years earlier than would have been required under a case-by-case BART determination in a §308 SIP.

Emissions in the 3-state region decreased an additional 31% between 2000 and 2008.<sup>5</sup> Figure 2 shows the emission reductions from 1990 baseline emissions in the §309 states that will have been achieved by 2018. This total 60% reduction from 1990 emissions is well on the way to the GCVTC goal of reducing SO<sub>2</sub> emissions by 50% - 70% by the year 2040.

Figure 3 shows the sulfate contribution to visibility at the long-term IMPROVE sites located on the Colorado Plateau. As can be seen from these graphs, there has been a steady decrease in the visibility impact due to sulfates. The trend is especially apparent on the 20% best days that are not affected by the variability of fire emissions in the region.

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<sup>5</sup> *WRAP 2008 Regional Emissions and Milestone Report*, March 31, 2010.

Figure 2. Emission Trends

**§309 SO<sub>2</sub> Backstop Cap and Trade Program -  
Emissions, Modeling EI, and Milestone Program Data  
(no tribal sources)**

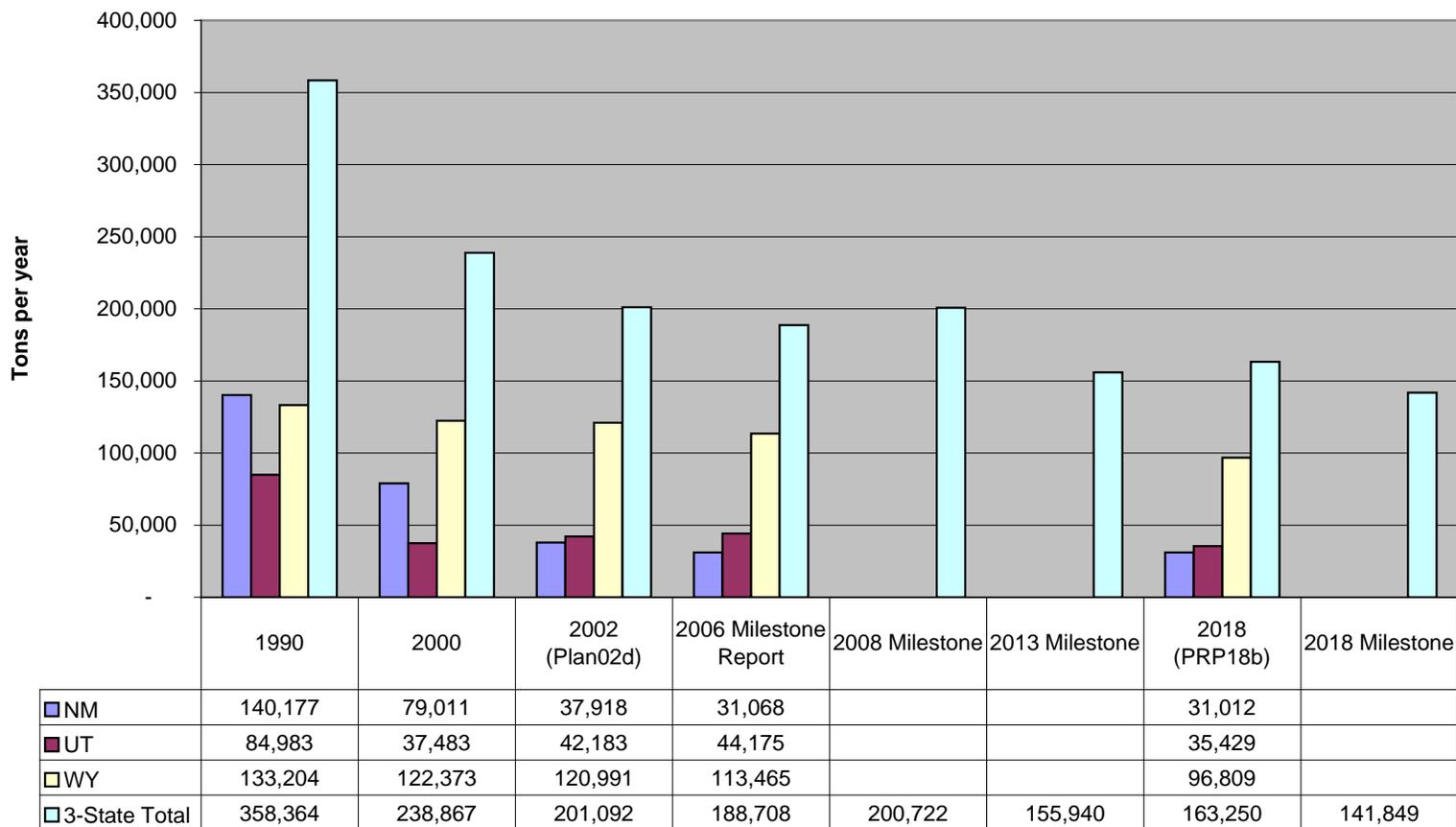
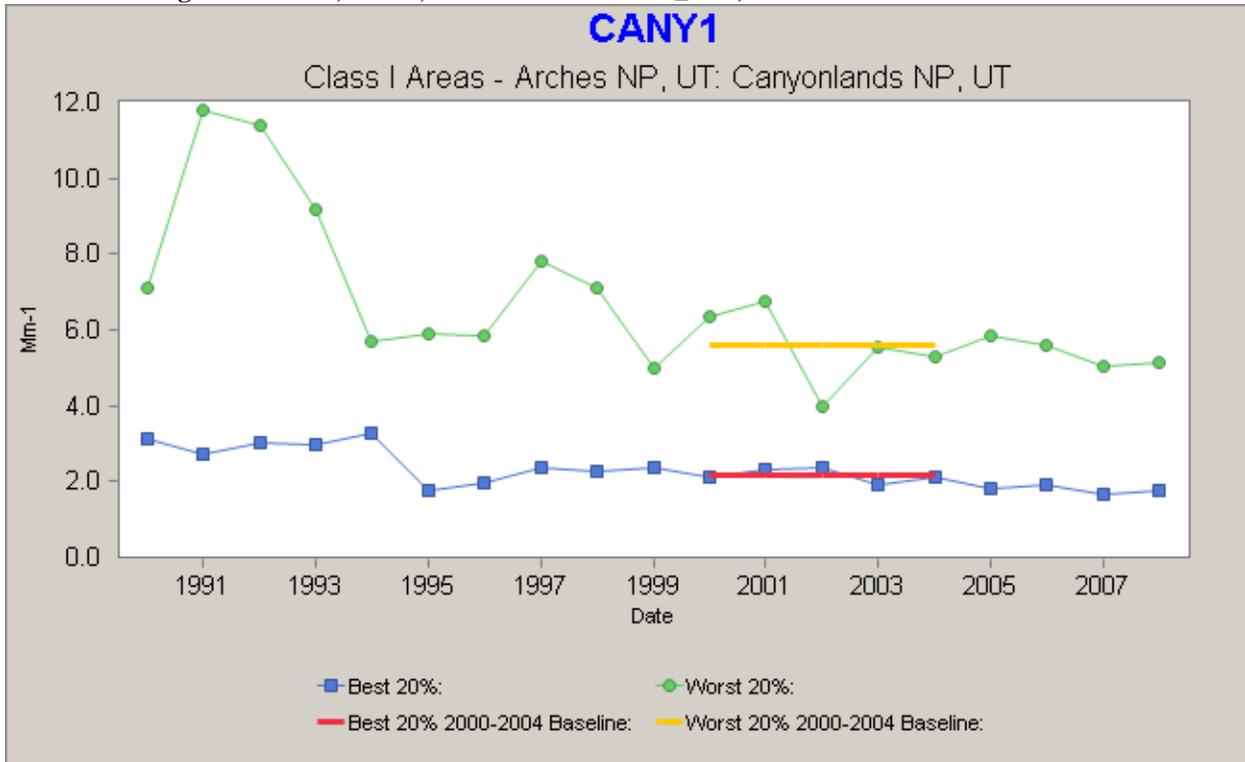


Figure 3. Sulfate Contribution to Light Extinction at Class I Areas on the Colorado Plateau.<sup>6</sup>

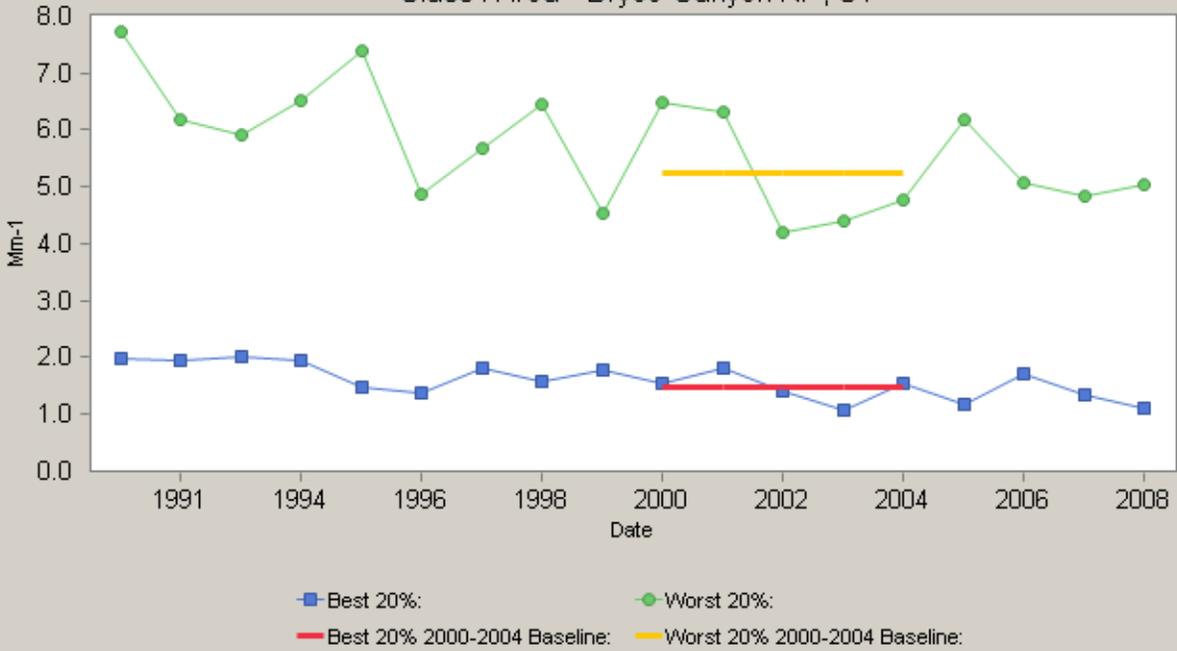
Series – Aggregation: Best 20%, Worst 20%, Best 20% 2000-2004 Baseline, Worst 20% 2000-2004 Baseline,  
 Metadata – Program: IRHR2, Poc: 1, Parameter: ammSO4\_bext, Method: RHR Dataset.



<sup>6</sup> Only those Class I areas on the Colorado Plateau with at least 15 years of data are included in this figure.

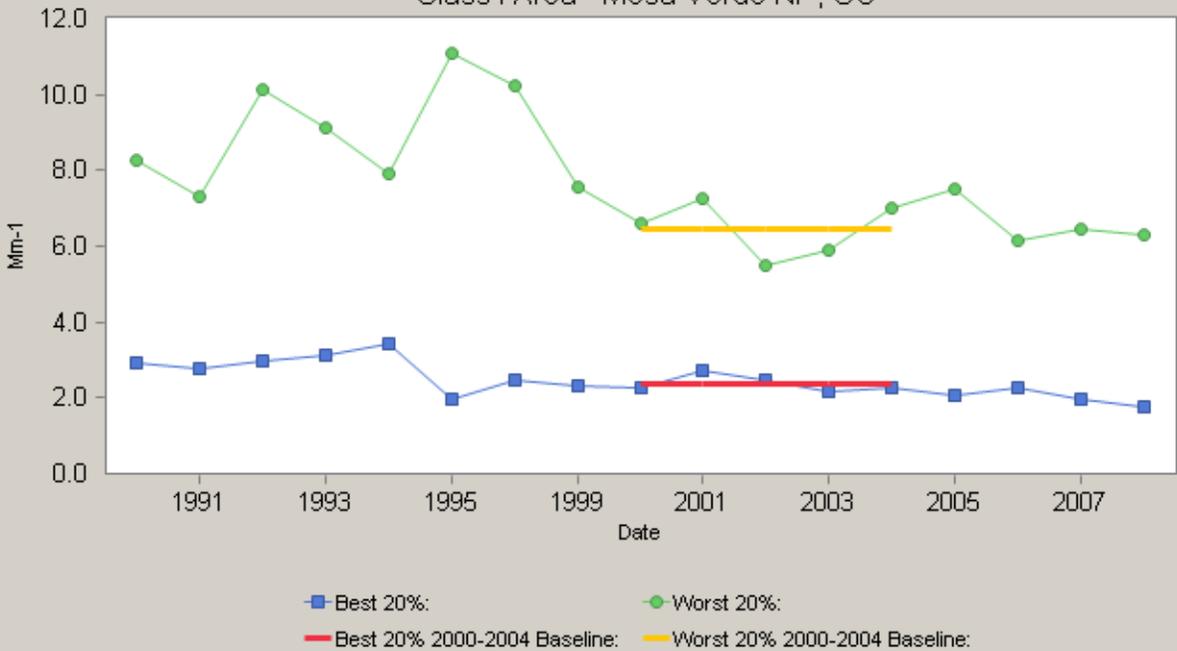
# BRCA1

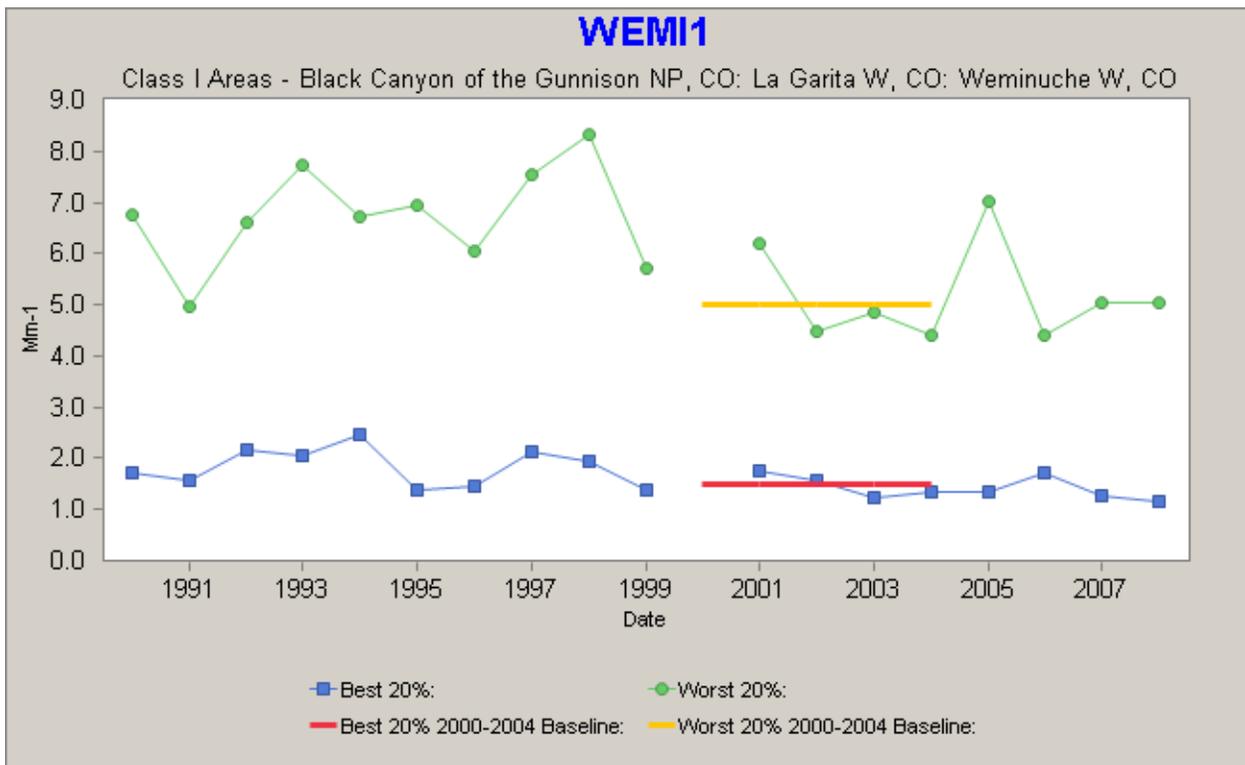
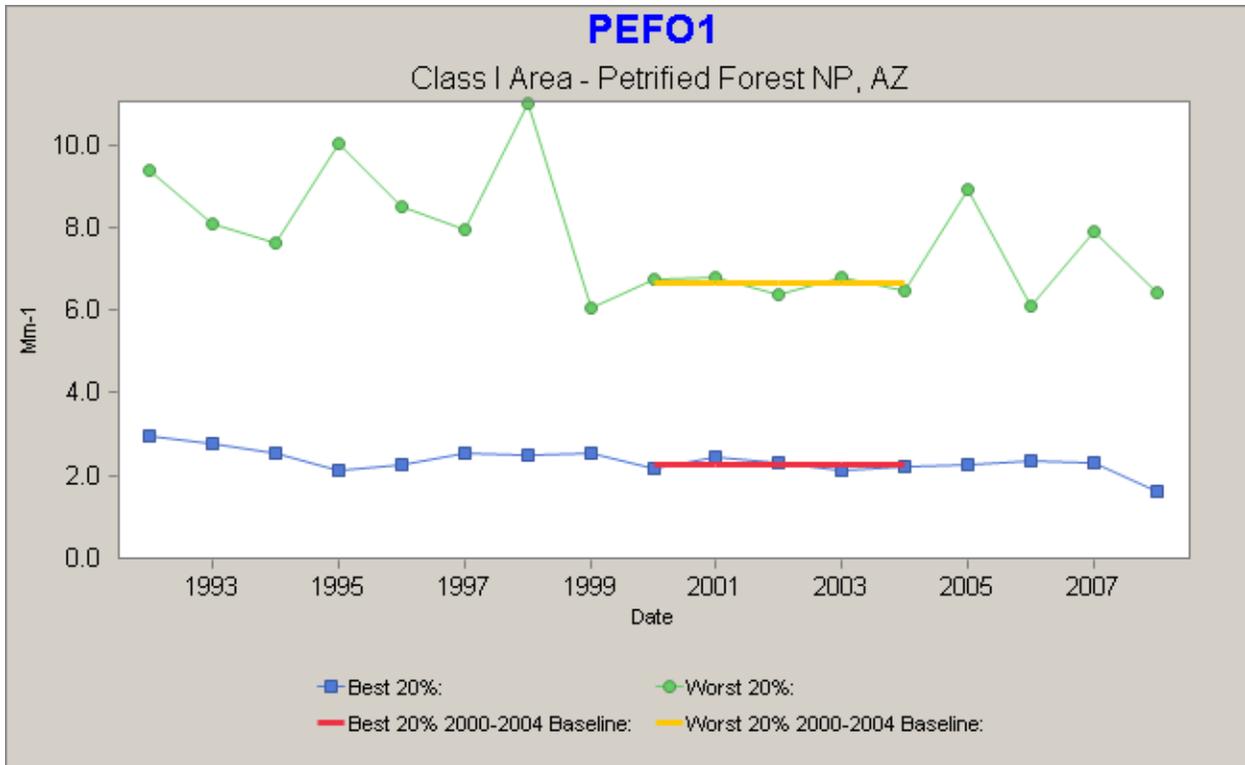
Class I Area - Bryce Canyon NP, UT



# MEVE1

Class I Area - Mesa Verde NP, CO





## 2. Additional Sources Included.

The Backstop Trading Program includes all stationary sources with emissions greater than 100 tons/year of SO<sub>2</sub>. The §309 States designed this program as part of an overall strategy to address all sources of visibility impairing pollutants, rather than focusing on a subset of stationary sources.

		2006	
	Number of Sources	Emissions	Percentage
Subject to BART	10	121,542	62%
Other Stationary Sources	63	73,038	38%

The inclusion of all major SO<sub>2</sub> sources in the program is necessary to create a viable trading program, and also serves a broader purpose to ensure that growth in emissions from sources that are not subject to BART does not undermine the progress that has been achieved. BART applied on a case-by-case basis would not affect these sources, and there would be no limitation on their future operations under their existing permit conditions. Because the milestones will cap these sources at actual emissions (which are less than current allowable emissions), the overall effect of their inclusion is to provide greater reasonable progress than would have been achieved if only sources that are subject to BART were included in the program.

## 3. Cap on New Source Growth.

When Congress established the visibility program in 1977 it declared as a national goal "the prevention of any future, and the remedying of any existing" anthropogenic visibility impairment in mandatory Class I federal areas.<sup>7</sup> BART is an emission limitation established at a specific source and is designed as a remedy to impairment at specific mandatory Class I areas. By contrast, the SO<sub>2</sub> milestones developed by the §309 States serve the dual purpose of remedying existing impairment and preventing future impairment by requiring regional SO<sub>2</sub> emissions reductions and capping emissions for stationary sources. Future impairment is prevented by capping emissions growth from sources not eligible under the BART requirements, from sources subject to BART that are expected to significantly increase utilization, and from entirely new sources in the region.

The milestones include estimates for growth, but then lock these estimates in as an enforceable emission cap. The milestone approach is consistent with the statutory goal of preventing any future visibility impairment that results from man-made air pollution. The entire region is experiencing rapid growth which could erode the progress that has been achieved in the last two decades towards improving visibility. BART applied on a case-by-case basis would have no impact on future growth, and in the long run would not achieve the regional emission reductions that are guaranteed by the program.

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<sup>7</sup> CAA § 169A(a)(1).

#### **4. Commission Strategies are a Total Package.**

The GCVTC recommendations were developed as a comprehensive strategy includes strategies to address mobile sources, prescribed fire, pollution prevention, and Clean Air Corridors. The stationary source strategies need to be viewed as part of this overall package. Visibility impairment in the west is caused by multiple sources and pollutants, and a narrow focus on stationary sources may not achieve the same results as a broad-based program. When viewed as part of the entire SIP, the milestones achieve much greater reasonable progress than BART.

#### **5. Mass Based Cap has Inherent Advantages Over BART**

The baseline emission projections and assumed reductions due to the assumption of BART-level emission rates on all sources subject to BART are all based on actual emissions, using 2006 as the baseline. The use of actual emissions has an effect in several ways. If the BART process was applied on a case-by-case basis to individual sources, emission limitations would typically be established as an emission rate (lbs/hr or lbs/MMBtu) that would account for variations in the sulfur content of fuel and alternative operating scenarios. The difference between actual emissions and allowable emissions is particularly large when a source is permitted to burn two different fuel types, such as oil and natural gas, or when the source is part of a cyclical industry where production varies from year to year due to the changing demand for their product. A mass-based cap that is based on actual emissions is more stringent because it does not allow a source to consistently use this difference between current actual and allowable emissions.

Another difference is that mass-based limits will include excess emissions that may occur due to malfunctions or during the start-up or shut-down of emission units. A good example of this difference is the requirement in the acid rain program that emissions must be assumed to be the highest value recorded from the past year during the time period that continuous emission monitors are not functioning on a stack. These higher emissions are calculated as part of the overall tons/year, and must be accounted for under the mass-based cap for the acid rain program.

#### **6. Tribal Set-Aside**

The GCVTC recommended a market based program to address stationary source emissions of SO<sub>2</sub>. The GCVTC recommended that the market based program include allocations to tribes that are of practical benefit.<sup>8</sup> This recognized the concern that "tribes, by and large, have not contributed to the visibility problem in the region" and that "[t]ribal economies are much less developed than those of states, and tribes must have the opportunity to progress to reach some degree of parity with states in this regard."<sup>9</sup> The tribes specifically recommended that if an emission trading strategy is adopted to achieve SO<sub>2</sub> reductions from stationary sources that allocations be based on considerations of equity rather than historical emissions:

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<sup>8</sup> *Recommendations for Improving Western Vistas* (June 1996). at 35.

<sup>9</sup> *Id.* at 66-67.

Credits should not be based on historical emissions, but should be based on equitable factors, including the need to preserve opportunities for economic development on tribal lands. In general, these lands are currently lacking in economic bases and have not contributed to the visibility problems.<sup>10</sup>

Accordingly, the Backstop Trading Program contains a 2,500 allocation to tribes in the GCVTC region. Case-by-case BART permits would not provide this practical benefit to tribes that was an integral part of the GCVTC recommendations.

## **7. Other Class I Areas Also Show Improvement in Visibility**

In addition to demonstrating successful SO<sub>2</sub> emission reductions, §309 states have also relied on visibility modeling conducted by the WRAP to demonstrate improvement at Class I areas. The complete modeling demonstration showing deciview values was included as part of the visibility improvement section in each of the State §309 SIPs, but the SO<sub>2</sub> portion of the demonstration has been included below as Table 4 to underscore the improvements associated with §309 SO<sub>2</sub> reductions and further demonstrate why the §309 program is better than BART. 40 CFR 51.309(g)(2)(i) allows states to build upon the strategies implemented in a §309 program and take full credit for visibility improvement achieved through these strategies when addressing additional Class I areas. This table demonstrates achievements in visibility in these additional Class I areas (off the Colorado Plateau) in and surrounding the three states participating in the §309 program. For the most part, the table shows projected visibility improvement for 2018 with respect to SO<sub>2</sub> on the worst days and no degradation on the best days. There is one Class I area in New Mexico off the Colorado Plateau that is not showing improvement on the worst days. The State of New Mexico has reviewed the emissions data related to impacts in the Gila Wilderness and has determined that the visibility degradation is largely due to increasing point source emissions from Mexico.

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<sup>10</sup>*Id.* at 71.

**Table 4. Visibility - Sulfate Extinction Only**

Class I Area Monitor (Class I Areas Represented)	20% Worst Visibility Days (Monthly Average, Mm <sup>-1</sup> )		20% Best Visibility Days (Monthly Average, Mm <sup>-1</sup> )	
	2018 <sup>1</sup> Base Case (Base 18b)	2018 <sup>2</sup> Preliminary Reasonable Progress Case (PRP18a)	2018 <sup>1</sup> Base Case (Base 18b)	2018 <sup>2</sup> Preliminary Reasonable Progress Case (PRP18a)
Bridger, WY (Bridger WA and Fitzpatrick WA)	5.2	4.3	1.6	1.3
North Absaroka, WY (North Absaroka WA and Washakie WA)	4.8	4.5	1.1	1.1
Yellowstone, WY (Yellowstone NP, Grand Teton NP and Teton WA)	4.3	3.9	1.6	1.4
Badlands, SD	17.8	16.0	3.5	3.1
Wind Cave, SD	13.0	12.1	2.7	2.5
Great Sand Dunes NM, CO	5.3	4.9	2.0	1.8
Mount Zirkel, CO (Mt. Zirkel WA and Rawah WA)	4.6	4.1	1.4	1.3
Rocky Mountain, CO	6.8	6.2	1.3	1.1
Gates of the Mountains, MT	5.3	5.1	1.0	1.0
UL Bend, MT	9.7	9.6	1.8	1.7
Craters of the Moon, ID	5.8	5.5	1.5	1.5
Sawtooth, ID	3.0	2.8	1.2	1.1
Bandelier NM, NM	6.4	5.9	2.4	2.2
Bosque del Apache NWRW, NM	7.0	6.6	2.7	2.5
Gila W, NM	6.2	6.7	1.8	1.8
Salt Creek NWRW, NM	14.4	14.0	3.3	3.1
Wheeler Peak, NM (Pecos W and Wheeler Peak W)	4.7	4.4	1.1	1.0
White Mountain W, NM	8.9	8.7	1.8	1.7
Great Basin NP, NV	4.1	4.1	1.2	1.2
Jarbidge W, NV	3.8	3.4	1.3	1.2
Chiricahua, AZ (Chiricahua NM, Chiricahua W, Galiuro W)	7.4	7.4	2.2	2.1
Ike's Backbone, AZ (Mazatzal W, Pine Mountain W)	6.1	5.9	2.2	2.1
Queen Valley, AZ	7.5	7.5	3.0	3.0
Saguaro NM, AZ	7.1	6.8	2.6	2.5
Saguaro West, AZ	7.3	7.1	3.2	3.1
Sierra Ancha, AZ	6.0	5.8	2.2	2.1
Superstition, AZ	6.7	6.5	2.7	2.6
Guadalupe Mountains NP, TX (Carlsbad Caverns NP, NM and Guadalupe Mountains NP, TX)	13.7	13.6	3.3	3.2

<sup>1</sup> Represents 2018 Base Case growth plus all established controls as of Dec. 2004. No BART or SO<sub>2</sub> Milestone assumptions were included.

<sup>2</sup> Represents 2018 Preliminary Reasonable Progress growth estimates and established SO<sub>2</sub> limits.

## H. Comparison of Trading vs. Command and Control BART Requirements

During the development of the Annex, the WRAP conducted modeling to determine whether the distribution of emissions under the Backstop Trading Program would differ substantially from the distribution of emissions assuming installation of BART or would disproportionately impact any Class I area due to a geographic concentration of emissions. The results of this modeling are included in Tables 2 and 3 of Attachment C to the Annex<sup>11</sup>. Attachment C, Section G concludes, “The results of this analysis showed that the maximum difference between the two scenarios at any of the Class I areas was only 0.1 deciviews.<sup>12</sup>”

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<sup>11</sup> *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* (September 2000) at C-15 and 16.

<sup>12</sup> *Id.* at C-21.