

Utah State Implementation Plan  
Section XX  
Regional Haze

Addressing Regional Haze Visibility Protection for the Mandatory Federal Class I Areas  
Required Under 40 CFR 51.308 and 309

Adopted by the Air Quality Board

[DATE]

## A. EXECUTIVE SUMMARY

This document comprises the State of Utah's State Implementation Plan (SIP) submittal to the U.S. Environmental Protection Agency (EPA) under the Regional Haze Rule in Sections [308 and 309](#) of Title 40 of the Code of Federal Regulations, Part 51 (40 CFR 51.[308 and 309](#)). Part B includes introductory and background information. The remaining parts identify the SIP requirements under Sections [308 and 309](#) and detail how Utah is addressing those requirements, and appendices include more detail about certain parts. Table 1 is a brief summary of each of the [308 and 309](#) SIP requirements along with Utah's approach in addressing those requirements.

**Table 1 - Executive Summary of Long-Term Strategies**

Clean Air Corridors <i>309(d)(3)</i>	Part C documents that emission growth inside and outside of the Clean Air Corridor is not shown to be contributing currently to impairment within the Clean Air Corridor.
Stationary Sources <i>308(e) and 309(d)(4)</i>	Part D includes proof of a 13% reduction in sulfur dioxide emissions between 1990 and 2000, Best Available Retrofit Technology (BART) <i>Alternative</i> for NO <sub>x</sub> and PM, geographic enhancement provisions, and other stationary source materials.
Sulfur Dioxide Milestones and Backstop Trading Program <i>309(d)(4)</i>	Part E includes milestones for sulfur dioxide emissions along with a backstop market cap and trade program for sulfur dioxide emissions from specific sources.
Mobile Sources <i>309(d)(5)</i>	Part F demonstrates that federal programs (such as low sulfur diesel, vehicle emission standards, etc.) lead to decreasing mobile source emissions throughout the planning period.
Programs Related to Fire <i>309(d)(6)</i>	Part G demonstrates that Utah has developed a smoke management regulation (R307-204) that implements the Western Regional Air Partnership (WRAP) <i>Enhanced Smoke Management Programs for Visibility Policy</i> .
Paved and Unpaved Road Dust <i>309(d)(7)</i>	Part H discusses the WRAP finding that dust emissions are not now a significant regional contributor to visibility impairment within the Colorado Plateau 16 Class I areas.

Pollution Prevention <i>309(d)(8)</i>	Part I describes programs and policies within Utah related to renewable energy and energy efficiency. Utah's anticipated contribution to the pollution prevention goals is outlined.
Additional Recommendations <i>309(d)(9)</i>	Part J summarizes that Utah has not identified any other recommendations in the Grand Canyon Visibility Transport Commission Report to implement in Utah at this time. A report on each recommendation is included in the Utah Technical Support Document Supplement.
Projection of Visibility Improvement <i>309(d)(2)</i>	Part K projects visibility improvement for the 20% best and worst days for each of the Class I areas on the Colorado Plateau (Arches, Bryce, Canyonlands, Capitol Reef, and Zion National Parks in Utah and the other 11 Class I areas in adjacent states that were addressed by the Grand Canyon Visibility Transport Commission)
Periodic Revisions <i>309(d)(10)</i>	Part L commits the State of Utah to submit periodic revisions to this SIP every five years.
State Planning and Interstate Coordination <i>309(d)(11)</i>	Part M describes Utah's participation in the Western Regional Air Partnership.
Reasonable Progress for Additional Class I Areas <i>309(g)</i>	Utah has no additional Class I areas.

### Technical Support Documents

Accompanying this implementation plan and associated appendices are ~~two~~ other supporting documents. The first is a Technical Support Document (TSD) developed by the Western Regional Air Partnership (WRAP) that contains the results of numerous collaborative studies by the WRAP members on which the State of Utah relied in the development of the 2003 SIP. In the implementation plan, this is referred to as the “WRAP TSD.” The WRAP TSD also includes appendices. In addition, there are other supplemental materials that are state-specific technical support information, including staff reviews and modeling information. In the implementation plan, these are referred to as the “Utah TSD Supplement.”

In 2008, the Regional Haze SIP was updated to address changes in the regional haze rule and EPA's BART Guidelines. The WRAP developed a new TSD, a Technical Support System (TSS) that contains the results of updated modeling, and an Emission Data Management System (EDMS). In the implementation plan these combined materials are referred to as the 2008 WRAP TSD and updated state-specific materials are referred to as the 2008 Utah TSD supplement.

In 2011 the SO<sub>2</sub> milestones in Part E of the SIP were revised to address a reduced number of states participating in the regional backstop trading program, and changes in growth projections for electric utilities in the west.

## **B. BACKGROUND ON THE REGIONAL HAZE RULE**

[No revisions]

## **C. LONG-TERM STRATEGY FOR THE CLEAN-AIR CORRIDOR**

[No revisions]

## D. LONG-TERM STRATEGY FOR STATIONARY SOURCES

1. Regulatory History and Requirements
2. Achievement of a 13% or Greater Reduction of Sulfur Dioxide Emissions by 2000
3. Strategy for Stationary Sources of Sulfur Dioxide
4. Geographic Enhancement Program
5. Report on Assessment of NO<sub>x</sub>/PM Strategies
6. Best Available Retrofit Technology (BART) Assessment for NO<sub>x</sub> and PM

- a. Regional Haze Rule BART Requirements

Pursuant to [40 CFR 51.308\(e\)](#) and 40 CFR 51.309(d)(4)(vii), certain major stationary sources are required to evaluate, install, operate and maintain BART technology or an approved BART alternative for NO<sub>x</sub> and PM emissions. The State of Utah has chosen to evaluate BART for PM under the case-by-case provisions of 40 CFR 51.308(e)(1) and BART for NO<sub>x</sub> through alternative measures under 40 CFR 51.308(e)(2) [and \(3\)](#). BART for SO<sub>2</sub> is addressed through an alternative program under 40 CFR 51.309 that is described in Part E of this plan.

- b. BART for Particulate Matter

[No revisions]

- c. BART for NO<sub>x</sub>

BART for NO<sub>x</sub> is addressed through alternative measures as provided under 40 CFR 51.308(e)(2). The following emission reduction measures, [which include both BART and non-BART sources](#), are required, and are made enforceable through emission limits established in Section IX, Part H.21 and H.22 of the State Implementation Plan.

- PacifiCorp Hunter Units 1 and 2 and Huntington Units 1 and 2: The replacement of first generation low-NO<sub>x</sub> burners with Alstom TSF 2000TM low-NO<sub>x</sub> firing system and installation of two elevations of separated overfire air with an emission limit of 0.26 lb/MMBtu.
- PacifiCorp Hunter Unit 3 (not subject-to-BART): The replacement of first generation low-NO<sub>x</sub> burners with improved low-NO<sub>x</sub> burners with overfire air with an emission limit of 0.34 lb/MMBtu.

- PacifiCorp Carbon Units 1 and 2 (not subject-to-BART): PacifiCorp shall permanently retire Carbon Units 1 and 2 by August 15, 2015.

40 CFR 51.308(e)(2) requires an analysis to demonstrate that the alternative measures achieve greater reasonable progress than would be achieved through the installation and operation of BART. This demonstration is included in the TSD.<sup>1</sup> Combined emissions of NO<sub>x</sub>, SO<sub>2</sub>, and PM<sub>10</sub> will be 1,879 tons/yr lower under the alternative than the most-stringent BART scenario for NO<sub>x</sub>. Dispersion modeling and related analysis done according to 40 CFR 51.308(e)(3), demonstrates that the alternative achieves “greater reasonable progress” by meeting both of the following two prongs: (i) visibility does not decline in any Class I area, and (ii) there is an overall improvement in visibility, determined by comparing the average differences between BART and the alternative over all affected Class I areas. ~~visibility will improve on a greater number of days under the alternative, and the average deciview impairment and 90<sup>th</sup> percentile deciview impairment will be better under the alternative.~~

#### d. BART Summary

The BART emission limits for NO<sub>x</sub> and PM are summarized in Table 5. While Utah has chosen to meet the NO<sub>x</sub> BART requirement through alternative measures established in Section XX Part D.6 of the SIP, and the SO<sub>2</sub> BART requirement through an alternative to BART program established in Section XX Part E of the SIP, the enforceable emission limits for both NO<sub>x</sub> and SO<sub>2</sub> established in the approval orders and in the SIP for the four EGUs also meet the presumptive emission rates for both NO<sub>x</sub> and SO<sub>2</sub> established in Appendix Y independently of the alternative programs.

**Table 2 - Emission Limits for the Retrofitted Hunter and Huntington Units**

Units	Utah Permitted Limits			Presumptive BART Rates <sup>2</sup>	
	SO <sub>2</sub> lb/MMBtu	NO <sub>x</sub> lb/MMBtu	PM lb/MMBtu	SO <sub>2</sub> lb/MMBtu	NO <sub>x</sub> lb/MMBtu
Hunter 1	0.12	0.26	0.015	0.15	0.28
Hunter 2	0.12	0.26	0.015	0.15	0.28
Hunter 3		0.34			
Huntington 1	0.12	0.26	0.015	0.15	0.28
Huntington 2	0.12	0.26	0.015	0.15	0.28

<sup>1</sup> Review of 2008 BART Determination and Recommended Alternative to BART for NO<sub>x</sub>, Utah Division of Air Quality, February 13, 2015

<sup>2</sup> 40 CFR Part 51 Appendix Y Guidelines for BART Determinations under the Regional Haze Rule (70 Federal Register 39135)

**e. Schedule for Installation of Controls**

Pursuant to 51.308(e)(1)(C)(iv) each source subject to BART is required to install and operate BART no later than 5 years after approval of the implementation plan, and pursuant to 51.308(e)(2)(E)(3) all alternative measures must take place within the first planning period. Table 6 shows that the required schedule ~~will be~~ has been met for all units.

**Table 3 - Installation Schedule**

Source	Notice of Intent Submitted	Permit Issued	In Service Date
Hunter 1	June 2006	March 2008	Spring 2014
Hunter 2	June 2006	March 2008	Spring 2011
Hunter 3			Summer 2008
Huntington 1	April 2008	August 2009	Fall 2010
Huntington 2	October 2004	April 2005	Dec 2006
Carbon 1			Shut down August 2015
Carbon 2			Shut down August 2015

Utah’s long-standing Prevention of Significant Deterioration (PSD) permitting program (SIP Section VII and R307-405), New Source Review permitting program (SIP Section II and R307-401) and Visibility program (SIP section XVII and R307-406) will continue to protect Class I area visibility by ensuring that the BART emission limits established in Part H.21 and H.22 of this plan are maintained, requiring best available control technology for new sources, and assuring that there is not a significant degradation in visibility at Class I areas due to new or modified major sources.

## **E. SULFUR DIOXIDE MILESTONES AND BACKSTOP TRADING PROGRAM**

[No revisions]

## **F. LONG-TERM STRATEGY FOR MOBILE SOURCES**

[No revisions]

## **G. LONG-TERM STRATEGY FOR FIRE PROGRAMS**

[No revisions]

## **H. ASSESSMENT OF EMISSIONS FROM PAVED AND UNPAVED ROAD DUST**

[No revisions]

## **I. POLLUTION PREVENTION AND RENEWABLE ENERGY PROGRAMS**

[No revisions]

## **J. OTHER GCVTC RECOMMENDATIONS**

[No revisions]

## **K. PROJECTION OF VISIBILITY IMPROVEMENT ANTICIPATED FROM LONG-TERM STRATEGY**

[No revisions]

## **L. PERIODIC IMPLEMENTATION PLAN REVISIONS**

[No revisions]

## **M. STATE PLANNING/INTERSTATE COORDINATION AND TRIBAL IMPLEMENTATION**

[No revisions]

## **N. ENFORCEABLE COMMITMENTS FOR THE UTAH REGIONAL HAZE SIP**

[No revisions]