Chapter Two – Status of Implementation of Control Measures (40 CFR 51.308(g)(1))

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2.1 Status Summary

Chapter Two discusses the implementation of control measures included in Nevada's 2009 RH SIP to achieve reasonable progress goals for Class I areas in Nevada and nearby. Nevada's strategy for achieving reasonable progress during the initial planning period is based on the federal and state measures considered in developing the 2018 emissions inventory (PRP18a). Additional reductions will be gained by the implementation of Nevada Best Available Retrofit Technology (BART) regulations and other state measures. The federal measures incorporated in the 2018 projected emission estimates have all been enacted and are in full effect. The existing state measures described in the 2009 RH SIP not only remain in place, but have been enhanced by legislation mandating a reduction in coal-fired electrical generating unit (EGU) emissions and stronger renewable energy portfolio requirements. The 2018 emission projections also included a large coal-fired power plant that has since ceased operations and been decommissioned, and three proposed power plants whose permit applications have been withdrawn (Appendix B, Section 1). These actions have led to substantial reductions in both the actual and projected emissions of visibility-impairing pollutants from Nevada sources.

Finally, several new and proposed federal and state actions are discussed that will result in further reductions of visibility impairing pollutants through the next planning period, including the status of BART controls at Nevada facilities as well as those in adjacent states.

2.2 Nature of the Visibility Problem in Nevada

40 CFR 51.308(g)(1) requires "[a] description of the status of implementation of all measures included in the implementation plan for achieving" reasonable progress goals for Class I areas both within and outside the State. Visibility modeling was used to determine the expected 2018 visibility improvements for the Jarbidge WA resulting from existing federal and state regulations, including presumptive SO_2 BART limits for coal-fired EGUs with capacity greater than 750 megawatts (MW). The resulting modeled haze index in deciviews, as captured by the WRAP's projected PRP18a emissions inventory, was adopted as Nevada's reasonable progress goal for the first planning period. 2009 RH SIP Chapter Six.[1]

> *51.308(g) Periodic progress reports must contain at a minimum . . .*
>
> *(1) A description of the status of implementation of all measures included in the implementation plan for achieving reasonable progress goals for mandatory Class I Federal areas both within and outside the State.*

[1] See the discussion in Chapter One of the correction to the 2018 visibility projection for Jarbidge WA conducted by the Regional Modeling Center. Nevada concludes that it is reasonable to retain the reasonable progress goal of 11.05 deciviews, which aligns closely with the 2018 uniform rate of progress value for Jarbidge WA.

This chapter focuses on anthropogenic emission sources and describes the emission reduction measures that were included in the 2018 projected emission inventory modeling effort. The status and associated benefits of these controls and regulations are discussed below. The benefits are quantified where possible in Chapter Five. This chapter also discusses significant federal and state emission reduction measures that were not included in the 2018 inventory, including the status of existing and future expected controls for Nevada's EGUs. Finally, the status of the implementation of BART, both in Nevada and in adjacent states, is discussed as it relates to the reduction of baseline emissions.

2.3 Federal Programs

This section describes the existing federal programs that were included in the 2018 future year emissions estimate and new federal programs that will result in additional reductions of visibility impairing pollutants beyond those captured in the projections.

2.3.1 Existing Federal Measures

The emission reductions associated with the following existing federal measures were incorporated into the WRAP's 2018 projected emission inventory. These are the "on-the-way" and "on-the-books" federal control programs that are part of Nevada's long term strategy for reaching its reasonable progress goal. 2009 RH SIP, Chapter Seven.

Heavy-Duty Highway Rule -- 40 CFR Part 86

In this regulation, USEPA set a particulate matter (PM) emissions standard for new heavy-duty engines of 0.01 gram per brake horsepower-hour (g/bhp-hr), which took full effect for diesel engines in the 2007 model year. This rule also included standards for oxides of nitrogen (NO_x) and non-methane hydrocarbons of 0.20 g/bhp-hr and 0.14 g/bhp-hr, respectively. These diesel engine NO_x and non-methane hydrocarbons standards were successfully phased in together between 2007 and 2010.

The rule also required that sulfur in diesel fuel be reduced to facilitate the use of modern pollution-control technology on these trucks and buses. The 97 percent reduction in the sulfur content of highway diesel fuel mandated by USEPA – from levels of 500 parts per million (ppm) (low sulfur diesel) to 15 ppm (ultra-low sulfur diesel) – became effective in Nevada in October 2006.

Tier 2 Vehicle and Gasoline Sulfur Program – 40 CFR Part 80 Subpart H; Part 85; Part 86

USEPA's Tier 2 fleet averaging program for on-road vehicles, modeled after the California low emitting vehicles (LEV) II standards, became effective in the 2005 model year. The Tier 2 program allows manufacturers to produce vehicles with emissions ranging from relatively dirty to very clean, but the mix of vehicles a manufacturer sells each year must have average NO_x emissions below a specified value. The program focuses especially on NO_x, because that is where the largest air quality gains can be achieved; however, it also reduces VOC and other

emissions. Mobile emissions continue to benefit from this program as motorists replace older, more polluting vehicles with cleaner vehicles.

Non-road Mobile Diesel Emissions Program – 40 CFR Part 89

USEPA adopted standards for emissions of NO_x, hydrocarbons, and carbon monoxide from several groups of non-road engines, including industrial spark-ignition engines and recreational non-road vehicles. Industrial spark-ignition engines power commercial and industrial applications and include forklifts, electric generators, airport baggage transport vehicles, and a variety of farm and construction applications. Non-road recreational vehicles include snowmobiles, off-highway motorcycles, and all-terrain vehicles. These rules were initially effective in 2004 and were fully phased in by 2012. Mobile emissions continue to benefit from this program as motorists replace older, more polluting vehicles with cleaner vehicles.

The non-road diesel rule sets standards that reduced emissions by more than 90 percent from non-road diesel equipment and, beginning in 2007, the rule reduced fuel sulfur levels by 99 percent from previous levels. The reduction in fuel sulfur levels applied to most non-road diesel fuel in 2010 and applied to fuel used in locomotives and marine vessels in 2012.

Maximum Achievable Control Technology (MACT) Programs – 40 CFR Part 63

Chapter Six of Nevada's 2009 RH SIP discusses reasonable progress for Jarbidge WA, including a discussion of emissions reductions due to existing air pollution control measures and specifically, in section 6.5.2.1, emissions reductions resulting from the implementation of federal rules. Although section 6.5.2.1 claims emissions from various MACT programs were incorporated into the PRP18a emission inventory, further review of two documents[2] prepared for the WRAP by their contractor, Eastern Research Group (ERG), indicate that MACT emission reductions from WRAP sources were not estimated. ERG concluded that credible estimates of the MACT impacts could not be developed based on readily available information and that substantial effort would be required to gather the necessary data.

This finding does not affect the outcome of the visibility modeling, or the selection of Nevada's reasonable progress goal. Rather, implementation of the MACT programs and their co-benefits will further reduce emissions from the subject sources beyond the WRAP's projection.

2.3.2 New Federal Measures

New federal programs will provide further reductions in visibility-impairing pollutants, either as a result of direct control requirements or as co-benefits. These reductions were not considered in the development of the WRAP's PRP18a future year emissions estimates. Any additional emission reduction benefits achieved by the implementation of these requirements will help

[2] ERG, 2006, *WRAP Point and Area Source Emissions Projections for the 2018 Base Case Inventory, Version 1*, available at http://wrapair.org/forums/ssjf/documents/eictts/docs/WRAP_2018_EI-Version_1-Report_Jan2006.pdf (last viewed 6/2/2014) and ERG, 2007, *WRAP 2018 Preliminary Reasonable Progress Emission Inventory – Final, Revised*, available at http://wrapair.org/forums/ssjf/documents/eictts/Projections/PRP18_EI_tech%20memo_061607.pdf (last viewed 6/2/2014).

ensure that all Class I areas in the WRAP region meet their reasonable progress goals in a timely manner.

Mercury and Air Toxics Rule

On December 16, 2011, USEPA finalized national CAA standards to reduce mercury and other toxic air pollution from coal and oil-fired power plants. 77 FR 9304 (Dec. 16, 2011). The final rule established power plant emission standards for mercury, acid gases, and non-mercury metallic toxic pollutants that will prevent 90 percent of the mercury in coal-fired power plants from being emitted to the air; reduce acid gas emissions from power plants by 88 percent; and cut power plant SO_2 emissions by 41 percent beyond the reductions expected by the Cross-State Air Pollution Rule. These reductions are expected in the 2016 time frame.

2010 SO_2 National Ambient Air Quality Standards

On June 2, 2010, USEPA strengthened the SO_2 national ambient air quality standards (NAAQS) by revising the primary SO_2 standard to 75 parts per billion (ppb) averaged over one hour. This short term standard is significantly more stringent than the revoked standards of 140 ppb averaged over 24 hours and 30 ppb averaged over a year. On August 5, 2013, USEPA designated planning areas with monitoring data from the years 2009 to 2011 indicating violations of the new standard as nonattainment. 78 FR 47191 (August 5, 2013). Under the CAA, these areas are required to attain the NAAQS as expeditiously as practicable, but no later than five years after designation. USEPA has indicated that it will designate the remaining areas once it has collected sufficient monitoring or modeling data on which to base a designation.[3] 79 FR 27446 (May 13, 2014). Additionally, the new standard must be taken into account when permitting new or modified major sources of SO_2 emissions such as fossil-fuel fired power plants. Any reductions in SO_2 emissions brought about by the 2010 SO_2 NAAQS will enhance protection of visibility in federal Class I areas.

2010 NO_2 National Ambient Air Quality Standards

On January 22, 2010, USEPA established an additional primary standard for NO_2 at 100 ppb, averaged over one hour, while retaining the annual standard. 75 FR 6474 (Jan. 22, 2010). Along with the new standard, USEPA set new requirements to monitor NO_2 levels near major roadways. Once the new monitoring network has collected three years of data, USEPA will redesignate areas in 2016 or 2017, as appropriate, based on the new data. Areas designated nonattainment will be required to reduce emissions to attain the NAAQS within a prescribed time. Additionally, the new standard must be taken into account when permitting new or modified major sources of NO_x emissions, such as fossil-fuel fired power plants, boilers, and a variety of other manufacturing operations. Any reductions in NO_x emissions brought about by the 2010 NO_2 NAAQS will enhance protection of visibility in federal Class I areas.

2012 $PM_{2.5}$ National Ambient Air Quality Standards

[3] USEPA's failure to promulgate area designations by the deadlines set forth in the CAA is in litigation as of May 2014. Several states, including Nevada, are pushing for tighter designation deadlines, as required by the Act.

On December 14, 2012, USEPA strengthened the annual NAAQS for fine particles to 12.0 micrograms per cubic meter. 78 FR 3086 (Dec. 14, 2012). Emission reductions from USEPA and states' rules already on the books will help 99 percent of counties with monitors to meet the revised $PM_{2.5}$ standards without additional emission reductions. These rules include clean diesel rules for vehicles and fuels, and rules to reduce pollution from power plants, locomotives and marine vessels, among others. Additionally, the new standard must be taken into account when permitting new or modified major sources of $PM_{2.5}$.

North American Emission Control Areas

On March 26, 2010, the International Maritime Organization officially designated waters off North American coasts as an area in which stringent international emission standards will apply to ships. These standards will reduce air pollution from ships and deliver air quality benefits that extend hundreds of miles inland. In 2020, USEPA expects emissions from ships operating in the designated area to be reduced by 320,000 tons for NO_x, 90,000 tons for $PM_{2.5}$, and 920,000 tons for SO_2, which is 23 percent, 74 percent, and 86 percent, respectively, below predicted levels in 2020 absent the Emissions Control Area designation.

Implementation of the Emission Control Area means that ships entering the designated area are required to use compliant fuel for the duration of their voyage that is within that area, including time in port as well as voyages whose routes pass through the area without calling on a port. The requirements for quality of fuel change over time. From the effective date in 2012 until 2015, the sulfur content of fuel used by all vessels operating in designated areas cannot exceed 10,000 ppm. Beginning in 2015, the sulfur content of fuel used by vessels operating in these areas cannot exceed 1,000 ppm. With regard to NO_x emissions, marine diesel engines installed on a ship constructed on or after January 1, 2011, must comply with the Tier 2 standard. Marine diesel engines installed on a ship constructed on or after January 1, 2015, will be required to comply with the more stringent Tier 3 NO_x standard.

Tier 3 Vehicle Emission and Fuel Standards Program

The Tier 3 program is part of a comprehensive approach to reducing the impacts of motor vehicles on air quality and public health and builds on USEPA's Tier 2 program. The program considers the vehicle and its fuel as an integrated system, setting new vehicle emissions standards and lowering the sulfur content of gasoline beginning in 2017. The vehicle standards will reduce both tailpipe and evaporative emissions from passenger cars, light-duty trucks, medium-duty passenger vehicles, and some heavy-duty vehicles. The gasoline sulfur standard will enable more stringent vehicle emissions standards and will make emissions control systems more effective.

2.4 State Measures other than BART

In addition to federal programs and Nevada BART (discussed in the next section), there are other state measures that contribute to attaining Nevada's 2018 reasonable progress goal. As set forth in detail below, some noteworthy changes in Nevada since the 2009 RH SIP submittal include

power plant closures and cancellations; legislation mandating a reduction in coal-fired power plant emissions; stronger renewable energy portfolio requirements; and attainment of the NAAQS throughout the state.

2.4.1 Closures and Cancellations

The PRP18a future year emissions estimate included emissions from power plants that have since been closed, as well as projected future power plants that are no longer viable. The Southern California Edison Mohave Generating Station (Mohave) located near the southern tip of Clark County, Nevada, was a coal-fired plant with 19,595 tons per year (tpy) of NO_x and 8,701 tpy of SO_2 included in the 2018 emission inventory. This power plant ceased operation on December 31, 2005 and has since been fully decommissioned and demolished. Its operating permit was officially cancelled on April 9, 2010. This closure eliminated the largest combined source of SO_2 and NO_x emissions in the state. Appendix B, Section 1.

Five proposed power plants were included in the projected emissions inventory for 2018. See Chapter Three, section 3.4.1. Of the five, only two have moved forward and are now operational. The largest coal-fired power plant application, White Pine Energy Associates/LS Power, was withdrawn. The power plant designated as "Future Coal EGU (A)" in the PRP18a regional modeling was considered a surrogate for the Sithe Global Toquop Energy Project (located 14 miles northwest of Mesquite); its application was also withdrawn. Finally, Sempra Energy and NV Energy withdrew their applications for natural gas and coal-fired plants, respectively, at Copper Mountain and the Ely Energy Center (the latter is not in Table 3-1 and was not included in the 2018 projected emissions inventory). Appendix B, Section 1.

2.4.2 Emissions from Coal-Fired Power Plants

In 2013, the Nevada Legislature enacted Senate Bill 123 (SB123), which establishes requirements for the reduction of emissions from coal-fired electric generating plants in Nevada. The new law requires major utilities in Clark County to submit a plan for the retirement of 800 MW of capacity from coal-fired power plants and replace that with renewable energy facilities and other electric generating plants. NRS 704.7316. The legislation mandates the retirement or elimination of not less than 300 MW of coal-fired capacity on or before December 31, 2014; an additional 250 MW on or before December 31, 2017; and an additional 250 MW on or before December 31, 2019. It further requires the construction or acquisition of 350 MW from *new renewable* energy facilities. The utility must issue requests for proposals for 100 MW of new renewable supply by December 31, 2014; 100 MW by December 31, 2015; and 100 MW by December 31, 2016. An additional 50 MW of new renewable energy capacity, owned and operated by the electric utility, must be completed by December 31, 2021. Finally, the utility must construct or acquire and own facilities with a total capacity of 550 MW to replace the coal-fired capacity eliminated between 2014 and 2019.

The major electric public utility serving Clark County is the Nevada Power Company d/b/a NV Energy. NV Energy submitted its Emissions Reductions and Capacity Replacement plan (ERCR

Plan) to the Public Utilities Commission of Nevada on May 1, 2014. Appendix B, Section 3.3. The ERCR Plan was developed pursuant to SB 123, and is designed to meet the requirement to eliminate 300 MW by December 2014 by retiring units 1, 2 and 3 at the Reid Gardner Generating Station (Reid Gardner) near Moapa in Clark County, Nevada. These units have a capacity of 100 MW each. The fourth unit at Reid Gardner has a capacity of 257 MW and is scheduled to be retired by December 31, 2017. This elimination of coal-fired capacity from Reid Gardner will result in the reduction of 1,758 tons of SO_2 and 8,893 tons of NO_x from the PRP18a inventory during the 2008-2018 regional haze planning period.

2.4.3 Renewable Portfolio

Nevada was one of the first states to adopt a renewable portfolio standard. The standard establishes a schedule requiring each provider of electric service in Nevada to generate, acquire or save a certain percentage of its electricity (sold to customers) from renewable energy systems or efficiency measures. NRS 704.7821. For calendar years 2015 through 2019, inclusive, not less than 20 percent must come from renewable energy or efficiency measures. For calendar year 2025 and for each calendar year thereafter, the percentage increases to 25 percent. However, the 25 percent must be solely from renewable energy, not energy efficiency measures.

The Nevada Legislature enacted the "Solar Energy Systems Incentive Program," which requires the Public Utilities Commission of Nevada to set incentive levels and schedules, with a goal of approving solar energy systems totaling at least 250,000 kilowatts (250 MW) of capacity in this State for the period beginning on July 1, 2010, and ending on December 31, 2021. NRS 701B.005 and NRS 701B.010-290. To date, $160 million has been spent installing a total of 38 MW of installed capacity in Nevada. Appendix B, Section 1.7. Similarly, Nevada has a "Solar Thermal Demonstrations Program," which has the goal of promoting the installation of at least 3,000 solar thermal systems in homes, businesses, schools and other governmental buildings throughout this State by 2019. Appendix B, Section 1.7. NRS 701B.300-345.

The "Wind Energy Systems Demonstration Program" establishes a goal of installing at least 5 MW of wind energy systems by 2012. NRS-701B.400-650. To date, $25 million has been spent installing a total of 9 MW of installed capacity in Nevada. The "Waterpower Energy Systems Demonstration Program" similarly provides for the installation of at least 5 MW of waterpower energy systems in Nevada by 2016. NRS-701B.700-880. To date, $1.4 million has been spent constructing a total of 600 kW of installed capacity in the State. Appendix B, Section 1.7. Table 2-1 itemizes new and proposed generation plants in Nevada as of December 2013. It is noteworthy that all of the generation comes from renewable sources.

Table 2-1. New and Proposed Generation Plants in Nevada as of December 2013

OWNER	PLANT NAME	COUNTY	SUMMER CAPACITY (MW)	ENERGY SOURCE	ACTUAL OR PROPOSED ONLINE DATE	STATUS
Sempra Energy	Copper Mountain 2	Clark	58 MW	Sun	Dec. 2014	Under Construction

OWNER	PLANT NAME	COUNTY	SUMMER CAPACITY (MW)	ENERGY SOURCE	ACTUAL OR PROPOSED ONLINE DATE	STATUS
NVT Licenses, LLC	Spectrum Solar	Clark	30 MW	Sun	Sept. 2013	Permitting
Gradient Resources	Patua Phase I	Churchill	30 MW	Geothermal	Nov. 2013	Under Construction
Ormat	Wild Rose	Mineral	16 MW	Geothermal	Dec. 2013	Under Construction
Tonopah Solar Energy, LLC	Crescent Dunes Solar	Nye	110 MW	Sun	Dec. 2013	Under Construction
NextEra Energy	Mountain View Solar	Clark	8 MW	Sun	Feb. 2014	Permitting
Ormat	McGinness Hills Expansion	Lander	48 MW	Geothermal	July 2016	PPA Pending PUCN Approval
Sempra Energy	Copper Mountain 3	Clark	250 MW	Sun	Dec. 2016	Under Construction
K Road Moapa Solar LLC	K-Road	Clark	250 MW	Sun	Dec. 2015	Permitting
First Solar Energy LLC	Silver State Solar Power South	Clark	250 MW	Sun	May 2017	Permitting

*PPA means Power Purchase Agreement

Source: State of Nevada Public Utilities Commission http://puc.nv.gov/Utilities/Electric/Generation/ (last viewed 9/8/2014).

Furthermore, the Public Utilities Commission of Nevada has authorized the largest electric and gas utilities serving nearly 95 percent of the population in the State to expend substantial monies to implement various energy efficiency programs (Appendix B, Section 1.7):

1. Nevada Power Company d/b/a NV Energy – $44,550,000 (2013).
2. Sierra Pacific Power Company d/b/a NV Energy – $6,100,000 (2013/electric).
3. Sierra Pacific Power Company d/b/a NV Energy – $445,000 (2014/gas).
4. Southwest Gas Corporation – $4,400,000 (2014).

2.4.4 State Implementation Plans

The 2009 RH SIP included a table showing the status of nonattainment areas in Nevada. 2009 RH SIP Table 6-2. For each nonattainment area, the air control agency with jurisdiction developed and implemented a state implementation plan with control measures to bring the area into attainment of the NAAQS. Currently, all nonattainment areas in Nevada have either been redesignated attainment and are operating under a maintenance plan or have been granted a "determination of attainment", indicating that the area is attaining the standard even though it has not yet been redesignated (Table 2-2). The control measures remain in place. These include

fugitive dust regulations, oxygenated fuel programs, gasoline vapor recovery, transportation control measures, residential wood burning regulations, woodstove replacement programs and the State Alternative Fueled Vehicle program.

Table 2-2. Nonattainment Areas: Redesignation Status as of August 2014

PLANNING AREA (Hydrographic Area)	NONATTAINMENT DATE	REDESIGNATIONS
Carbon Monoxide		
Lake Tahoe Basin (HA90)	3/3/78	USEPA approved 12/15/03; effective 2/13/04
Las Vegas Valley (HA212)	3/3/78 and 11/15/90	USEPA approved 9/27/10; effective 9/27/10
Truckee Meadows (Reno, HA87)	3/3/78 and 11/15/90	USEPA approved 7/3/08
Ozone		
Washoe County	1/6/92 (1-hr) and 1/16/01 (1-hr)	6/15/05 1-hr NAAQS revoked; USEPA approved maintenance plan 1/18/08; effective 3/18/08
Clark County	9/13/04 (8-hr)	USEPA approved 1/8/13; effective 2/7/13
PM_{10}		
Las Vegas Valley (HA212)	11/15/90	clean data finding 8/3/10; USEPA proposed approval 7/21/14
Truckee Meadows (Reno) (HA87)	11/15/90	Request submitted 7/13/09; clean data finding 4/19/11
SO_2		
Central Steptoe Valley (HA179M)	3/3/78	USEPA approved 4/12/02; effective 6/11/02

2.5 Review of BART Determinations

The WRAP's PRP18a future year emissions estimate included presumptive SO_2 BART limits for coal-fired EGUs with capacity greater than 750 MW. For Nevada sources, the presumptive limits were not applied to the two candidate facilities, Mohave and Reid Gardner. Actual SO_2 emissions from Reid Gardner were below the presumptive emission limit, so actual emissions were modeled. Mohave was subject to a consent decree with an SO_2 emission limit equal to the presumptive limit; however, it has since been decommissioned.[4] No other emissions reductions resulting from the installation of BART at Nevada sources were included in the PRP18a inventory or resulting modeled reasonable progress goal.

2.5.1 Nevada's BART Implementation

Table 2-3 presents the current status of BART implementation in Nevada. The 2009 RH SIP requires that control measures will be installed and operating by January 1, 2015, with the

[4]The Mohave Generating Station has ceased all operations related to the generation of electricity from burning coal. NDEP approved Southern California Edison's request to terminate its Air Quality Operating Permit (No. AP4911-0774) on April 9, 2010. Appendix B, Sections 1.1 and 1.2.

exception of NO_x at Reid Gardner, which has a later compliance date. Therefore, IMPROVE monitoring data for this progress period will not reflect emissions reductions resulting from the implementation of BART in Nevada.

All of the facilities in Nevada that are subject to BART requirements are on schedule to meet the requirements by January 1, 2015; the compliance date for NO_x at Reid Gardner is June 30, 2016, but Units 1, 2 and 3 are expected to be retired before then. In fact, some of the BART controls are already being met as of February 2014: baghouses have been installed at Reid Gardner and the use of fuel oil has been eliminated at Fort Churchill Generating Station (Fort Churchill). Appendix B, Section 1.8. Furthermore, NV Energy has approval from the Public Utilities Commission of Nevada to retire Tracy Units 1 and 2 by the 2009 RH SIP compliance date. Appendix B, Sections 1.8 and 3.1. In April 2013, NV Energy was granted approval to implement alternative equivalent control technology for BART and supplemental control technology for Unit 3 at Tracy and Units 1 and 2 at Fort Churchill. This option is allowed under the 2009 RH SIP and Nevada Administrative Code. The control measures will be installed and operating by the compliance date to assure continuous compliance with the BART emission limits. No change to the BART emission limitations was proposed or approved. The approval of proposed alternative BART control technology and installation of approved alternative BART control technology for Tracy and Fort Churchill is detailed in Appendix B, Section 2.

For more information on the future status of the subject-to-BART units at Reid Gardner, see Section 2.4.2, Emissions from Coal-Fired Power Plants.

Table 2-3. BART Implementation Status

Facility	Emission Unit	BART Emission Limits (lb/MMBtu)			SIP-Required Control Date	BART Controls Implemented	Comments
		NO_x (12-month rolling average)	**SO_2** (24-hour average)	**PM_{10}** (3-hour average)			
NV Energy Tracy Generating Station	1	0.15	0.05	0.03	Jan. 1, 2015	▪Currently firing exclusively with natural gas ▪No other new controls installed recently	Units 1 and 2 did not operate during 2010 to 2012. NV Energy has stated its intent to retire these units by December 31, 2014.
	2	0.12	0.05	0.03			
	3	0.19	0.05	0.03			LNB and supplemental OFA, if needed; retrofit scheduled for Fall 2014.
NV Energy Fort	1	0.20	0.05	0.03	Jan. 1, 2015	▪Currently firing	LNB and supplemental

Facility	Emission Unit	BART Emission Limits (lb/MMBtu)			SIP-Required Control Date	BART Controls Implemented	Comments
		NO_x (12-month rolling average)	SO_2 (24-hour average)	PM_{10} (3-hour average)			
Churchill Generating Station						exclusively with natural gas ▪No other new controls installed recently	OFA, if needed; retrofit scheduled for Spring 2014
	2	0.16	0.05	0.03			LNB and supplemental OFA, if needed; retrofit scheduled for Summer 2014
NV Energy Reid Gardner Generating Station	1	0.20	0.015	0.015	SO_2 and PM_{10} controls by Jan. 1, 2015. NO_x controls by June 30, 2016	▪Baghouses (pulse-jet fabric filter) installed by April 15, 2009 ▪No other new controls installed recently	▪ Shutdown of Units 1, 2, and 3 called for in SB123. ▪ In May 2014, NV Energy applied for PUCN approval to shutdown these units in Dec 2014.
	2	0.20	0.15	0.015			
	3	0.28	0.15	0.015			
Southern California Edison Mohave Generating Station	1	-NA-	-NA-	-NA-	-NA-	-NA-	Facility ceased operations Dec 31, 2005. Permit terminated April 9, 2010. Facility has been fully decommissioned.
	2	-NA-	-NA-	-NA-			

2.5.2 Adjacent States' BART Implementation

The IMPROVE monitor (JARB1) representative of Jarbidge WA is situated on the northern flank of the Jarbidge Mountains less than 10 miles south of the Idaho border and within the Snake River Basin. This location topographically isolates the monitor from pollutants emitted in the rural Nevada portions of the Great Basin, but provides for monitoring of pollutants emitted and transported from the well-populated Snake River Plain largely located in Idaho. Source apportionment modeling conducted for Nevada's initial RH SIP (see Section 4.3) reveals that only 45 percent of the sulfate contributions to visibility impairment at JARB1 are emitted from sources in the entire WRAP region. However, source apportionment modeling did identify substantial contributions from Idaho and Oregon point sources. The NDEP reviewed the BART implementation status of subject-to-BART facilities in these nearby states with their air agency staff as discussed below.

<u>Idaho</u>

According to Mike Edwards, SIP and Maintenance Plan Analyst for the Air Quality Division of the Idaho Department of Environmental Quality (phone conversation with Frank Forsgren,

NDEP, on February 19, 2014), two facilities in Idaho were subject to BART: Amalgamated Sugar Company in Nampa (also known as TASCO-Nampa) and Monsanto/P4 Production, LLC in Soda Springs (http://www.deq.idaho.gov/air-quality/air-pollutants/haze.aspx). For the Monsanto/P4 facility, no technically feasible NO_x controls were identified for the two subject units and no new BART NO_x controls were required. For SO_2, the existing lime-concentrated dual alkali scrubber, installed in 2005 with a control efficiency of roughly 97 percent was determined to be BART, as were the existing PM_{10} controls (see section 10.6 of Idaho's regional haze SIP available at the link above). Therefore, BART has been fully implemented at the Monsanto/P4 facility.

The BART process for the TASCO Nampa facility has had a more complex history. The EPA approved a BART determination based on Idaho's original 2010 RH SIP submittal, but Idaho submitted a revised BART determination in its 2012 RH SIP submittal. The 2012 submittal also included an SO_2 BART alternative measure, which EPA fully approved (79 FR 23273 (April 28, 2014)) with a compliance date of July 22, 2016. BART consists of low NO_x burners (LNBs) for NO_x control and the existing baghouse for PM_{10} control on the one subject-to-BART boiler, while the SO_2 BART alternative consists of imposing NO_x emission limits on two non-BART boilers coupled with the permanent shutdown of three non-BART coal-fired pulp dryers. In addition, unless the LNBs have been installed by the compliance date, the subject boiler may be fired only using natural gas and may not be fired with coal until the LNBs are installed and operated.

Oregon

Only one facility in Oregon was subject to a BART determination: the PGE Boardman Power Plant (Boardman). Five other facilities chose the option of a federally enforceable permit condition exempting them from BART determinations. According to Mark Fisher, a permit writer for the Oregon Department of Environmental Quality Eastern Region Office in Bend, Oregon, Boardman installed new LNBs with a modified over-fire air system during 2011 and is currently meeting the BART NO_x emission limitations (phone conversation with Frank Forsgren, NDEP, on February 26, 2014). Boardman completed installation of BART SO_2 controls consisting of a semi-dry flue gas desulfurization system in early 2014 and is expected to be in compliance with the BART SO_2 emission limitation when it resumes operation later in 2014. The compliance date for the BART SO_2 controls is July 1, 2014. Compliance with a further reduced BART SO_2 emission limit is required by July 1, 2018, and the facility must permanently cease burning coal by no later than December 31, 2020.

In summary, in this Chapter, Nevada has described the implementation status of measures from Nevada's 2009 RH SIP, including the status of control measures to meet BART requirements, the status of significant measures resulting from USEPA regulations, as well as measures that came into effect since the WRAP analyses for the 2009 RH SIP were completed.