



March 25, 2016

Jared Blumenfeld
Regional Administrator
ORA-1, USEPA Region 9
75 Hawthorne Street
San Francisco CA 94105

RE: 2016 Supplement to the Nevada State Implementation Plan for the 2008 8-Hour Primary Ozone NAAQS: CAA § 110(a)(2)(D)(i)(I), Interstate Transport

Dear Mr. Blumenfeld:

On behalf of Governor Sandoval, as his appointed designee, this letter transmits to you a supplement to Nevada's state implementation plan (SIP) for the 2008 8-hour primary ozone national ambient air quality standard (NAAQS).

On April 10, 2013, the Nevada Division of Environmental Protection (NDEP) submitted the *Nevada Division of Environmental Protection Portion of the Nevada State Implementation Plan for the 2008 Ozone NAAQS* to the U.S. Environmental Protection Agency (USEPA). In its November 3, 2015 final rulemaking on the NDEP's "infrastructure" SIP submittal, USEPA deferred action on Clean Air Act (CAA) § 110(a)(2)(D)(i)(I), the interstate transport sub-element. In July 2015, USEPA released updated data showing the modeled contribution in 2017 by each state to downwind nonattainment and maintenance receptors for the 2008 ozone NAAQS. In response to this new information, the NDEP has prepared a supplement to its 2013 SIP evaluating the modeled impact of ozone or ozone precursor emissions from Nevada sources on certain California monitors.

The following documents comprise the supplemental submittal and are being submitted electronically to USEPA's Central Data Exchange (<https://cdx.epa.gov/CDX/LoggedOut>):

- *Supplement to the Nevada Division of Environmental Protection Portion of the Nevada SIP for the 2008 Ozone NAAQS: CAA § 110(a)(2)(D)(i)(I), Interstate Transport and Attachments 1 and 2.*

This supplement to the infrastructure SIP is submitted pursuant to CAA §§ 110(a)(1) and (2) and addresses sub-element (D)(i)(I), interstate transport. We certify that this supplement to the infrastructure SIP was properly noticed; evidence of public participation and adoption is included as Attachment 1 to the supplemental submittal. For the NDEP portion of the SIP, the Administrator of the NDEP has the authority to adopt and submit SIPs to USEPA (see Attachment 2). The NDEP hereby adopts this supplement to Nevada's ozone infrastructure SIP

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as a SIP revision and requests approval of the interstate transport sub-element in the 2013 submittal, as supplemented, into the applicable Nevada SIP.

If you should have any questions about this submittal or require additional clarification, you may contact Danilo Dragoni, Chief, Bureau of Air Quality Planning at (775) 687-9340.

Sincerely,



David Emme
Administrator

Enclosures

cc w/o enclosures:

Sheila Anderson, Policy Analyst, Office of the Governor
Amy Zimpfer, Associate Director, Air Division, USEPA Region IX (AIR-1)
Matt Lakin, Chief, Planning Office, USEPA Region IX (AIR-2)
Charlene Albee, Director, Air Quality Management Division, Washoe County Health District
Marci Henson, Director, Department of Air Quality, Clark County

cc w/o enclosures

Leo Drozdoff, Director, Nevada Department of Conservation and Natural Resources
Danilo Dragoni, Chief, Bureau of Air Quality Planning, NDEP

Submitted electronically to USEPA's Central Data Exchange, <https://cdx.epa.gov/CDX/LoggedOut>

**SUPPLEMENT TO THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
PORTION OF THE NEVADA SIP FOR THE 2008 OZONE NAAQS:
CAA § 110(A)(2)(D)(I)(I), INTERSTATE TRANSPORT**

Background and Summary

On April 10, 2013, the Nevada Division of Environmental Protection (NDEP) submitted the *Nevada Division of Environmental Protection Portion of the Nevada State Implementation Plan for the 2008 Ozone NAAQS* to the U.S. Environmental Protection Agency (USEPA). That submittal addressed the “infrastructure” requirements for state plans found in Clean Air Act (CAA) section 110(a)(2). This supplement to the 2013 state implementation plan (SIP) addresses the USEPA’s recent release of air quality modeling performed to assist states address the interstate transport requirements of CAA 110(a)(2)(D)(i)(I) for the 2008 ozone national ambient air quality standards (NAAQS). Analysis of the modeling data further supports a negative declaration of significant contribution from interstate transport of ozone or ozone precursor emissions to surrounding nonattainment and maintenance areas resulting from Nevada sources. In addition, other aspects of the transport requirements are satisfied or are expected to be sufficiently addressed through federal and state rules and implementation of New Source Review-Prevention of Significant Deterioration (NSR-PSD).

In its November 3, 2015 action on the NDEP’s infrastructure SIP for the 2008 ozone NAAQS, USEPA did not act on CAA 110(a)(2)(D)(i)(I). 80 FR 67656, footnote 18. The NDEP requests that the USEPA approve the interstate transport sub-element in the 2013 submittal with this supplement into the applicable Nevada SIP.

Nevada’s Impact on Downwind States

In January 2015, the USEPA issued a policy memorandum providing information on the interstate transport “good neighbor” provision for the 2008 ozone NAAQS and related preliminary air quality modeling data for ozone for the year 2018. The memorandum identified a screening threshold of one percent of the NAAQS (one percent threshold) to identify contributing upwind states warranting further review and analysis for those eastern states falling under the Cross-State Air Pollution Rule. The USEPA went on to note that additional considerations may impact the evaluation of transport from potentially linked states in the Western US and these linkages will be evaluated by the USEPA and states on a case-by-case basis.¹

¹ Memorandum: Information on the Interstate Transport “Good Neighbor” Provision for the 2008 Ozone NAAQS under the CAA, “Good Neighbor Memo,” Steven D. Page, Director, Office of Air Quality Planning and Standards, U.S. EPA. January 22, 2015, at 4. Available at: <http://www.epa.gov/sites/production/files/2015-11/documents/goodneighborprovision2008naaqs.pdf> (last viewed 1/8/16)

USEPA’s final modeling results released in July 2015 (modeling platform 2011 V6.2²) projected to the year 2017 and showed Nevada contributions at four San Joaquin Valley Air Pollution Control District (SJVAPCD, California) monitors only slightly greater than one percent of the NAAQS. Nevada’s contributions to the 2017 design values for the same monitors were below one percent (Table 1).

TABLE 1
PROJECTED 2017 OZONE DESIGN VALUES AND CONTRIBUTIONS

Monitor ID	County	2017 Projected Average DV ¹ (ppb)	CA (ppb)	CA (% of DV)	NV (ppb)	NV (% of DV)	NV (% of Std. ²)	BG ³ (ppb)	BG (% of DV)	CA+BG (ppb)	CA+BG (% of DV)
60190007	Fresno	89.0	42.10	47.3%	0.75	0.84%	1.00%	45.12	50.7%	87.22	98.00%
60190011	Fresno	87.6	41.75	47.7%	0.78	0.89%	1.04%	44.06	50.3%	85.81	97.96%
60190242	Fresno	87.1	37.42	43.0%	0.84	0.96%	1.12%	47.73	54.8%	85.15	97.76%
60392010	Madera	79.8	33.99	42.6%	0.76	0.95%	1.01%	44.42	55.7%	78.41	98.26%

¹ DV = 2017 Projected Average Design Value

² Std. = 2008 Ozone National Ambient Air Quality Standard of 75 ppb

³ BG = Canada & Mexico + Offshore + Initial & Boundary Concentration + Biogenic categories

Source: Modified from EPA Data File with 2017 Ozone Contributions. Available at <http://www.epa.gov/airmarkets/proposed-cross-state-air-pollution-update-rule>(last viewed 1/6/2016)

USEPA’s modeling demonstrates California contributes between 45 and 56 percent to the NAAQS (Table 2) and roughly 45 percent to the 2017 design values of the monitors (Table 1). Canada & Mexico, offshore, initial & boundary concentration, and biogenic categories together contribute approximately 60 percent to the NAAQS and more than 50 percent to the design values. The total contributions from all upwind states combined range from 1.9 to 2.6 percent of the NAAQS and only about two percent of the 2017 design values of these monitors. Nevada is the only state that contributes over one percent of the NAAQS to any of these four monitors. It contributes only slightly more than one percent of the NAAQS and less than one percent of the 2017 design values. Table 2 shows the top five states by percent of the NAAQS, including California, projected to contribute to ozone concentrations at the SJVAQMD monitors in 2017. Nevada’s largest contribution is 1.12 percent; Oregon contributes approximately half a percent, while Utah contributes less than half a percent, and Arizona less than a quarter of a percent to the NAAQS at these monitors.

² Data File with 2017 Ozone Contributions. Available at: <http://www.epa.gov/airmarkets/proposed-cross-state-air-pollution-update-rule> (last viewed 1/8/2016)

TABLE 2
PROJECTED 2017 STATE CONTRIBUTIONS TO 2008 OZONE NAAQS OF 75 PPB

Monitor ID	BG ¹	CA	NV	OR	UT	AZ
60190007	60.16%	56.13%	1.00%	0.59%	0.37%	0.05%
60190011	58.75%	55.67%	1.04%	0.53%	0.40%	0.07%
60190242	63.64%	49.89%	1.12%	0.43%	0.44%	0.23%
60392010	59.23%	45.32%	1.01%	0.47%	0.01%	0.19%

¹ BG = Canada & Mexico + Offshore + Initial and Boundary Concentrations + Biogenic Emissions
WA, ID, WY, and TX contribute less than 0.10 percent but greater than 0.025 percent

Source: Modified from Data File with 2017 Ozone Contributions. Available at

<http://www.epa.gov/airmarkets/proposed-cross-state-air-pollution-update-rule> (last viewed 1/5/2016)

These data demonstrate the overwhelming contribution of intrastate transport and locally produced ozone at these monitors. They also indicate that interstate transport from upwind states does not contribute significantly to 2017 ozone design values or to nonattainment or interference with maintenance of the ozone NAAQS in the SJVAPCD. Given that the 2017 design values at these monitors exceed the NAAQS by almost five to more than 10 parts per billion (ppb), elimination of all contributions by Nevada sources will not reduce the design values below the NAAQS. In fact, elimination of all interstate transport contributions from upwind sources will not reduce the design values below the NAAQS in 2017. Furthermore, the SJVAPCD is classified as an extreme nonattainment area for the 2008 ozone NAAQS³ with an attainment year of 2031⁴ for transportation conformity determinations. Nevada’s contribution to the SJVAPCD monitors in 2031 is unknown, but expected to be significantly reduced (see section on Nevada Source Review).

The one percent screening threshold may be appropriate in instances where multiple upwind states each contribute more than one percent to nonattainment area monitors and the design values are only a few ppb above the NAAQS. This may be the case for many eastern states subject to the Cross-State Air Pollution Rule. However, in Nevada’s case the 2017 design values are many ppb above the NAAQS and the total contribution of upwind states is minimal, between 1.7 and 2.2 percent. The USEPA recently acknowledged large uncertainties associated with the “initial and boundary concentrations” of their air quality modeling.⁵ Given the large contribution of such components to the background concentrations and to the projected 2017 design values at the four California monitors (Table 2), we believe that no particular significance should be assigned to the modeled exceedances of the one percent threshold. This is also in consideration of Nevada’s emission source mix, the controls already in place for Nevada’s sources, and the

³ Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements; Final Rule. March 6, 2015. 80 FR 12264, Appendix B.

⁴ 40 CFR Part 51.1103, Table 1.

⁵ Implementation of the 2015 Primary Ozone NAAQS: Issues Associated with Background Ozone White Paper for Discussion, USEPA, 12/22/2015 at page 15. Available at: <http://www3.epa.gov/airquality/ozonepollution/pdfs/whitepaper-bgo3-final.pdf> (last viewed 1/8/16)

planned shutdown of select coal-fired electrical generating units, as described in the following section.

Nevada Source Review

Nevada, including the two local air districts, the Clark County Department of Air Quality and the Washoe County Health District Air Quality Management Division, has adopted and implemented SIP provisions that cover all anthropogenic NO_x and VOC emitting sources and source categories under its jurisdiction. Federal rules, some state-delegated, also provide controls for emission reductions, including NSR-PSD. It is noteworthy that Nevada does not currently have any nonattainment areas within the state for any criteria pollutant.

Volatile Organic Compounds Source Analysis

The NDEP reviewed the 2011 National Emission Inventory data (v.2) to identify Nevada's emission source mix of ozone precursors, NO_x and VOC.⁶ The source mix is unlikely to change markedly in 2017, except as noted below. As seen in Figure 1, the largest Nevada source sector for VOC emissions is overwhelmingly Biogenics, followed by Mobile, Fires and Solvent, which contribute approximately three, two, and two percent, respectively. These four source sectors emit more than 99 percent of Nevada's VOC emissions. Biogenics is the overwhelming contributor of VOC emissions in Nevada and this source is not controllable, neither are Fires; and Mobile emissions generally fall under federal control. Therefore, the NDEP has not further evaluated control technologies for Nevada's VOC sources.

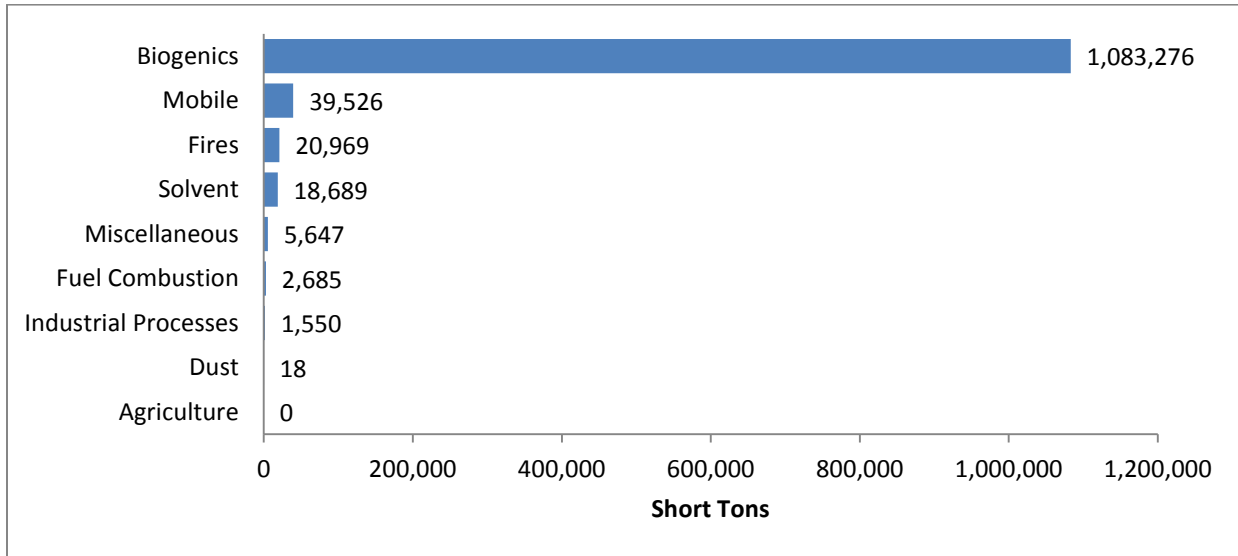
Nitrogen Oxides Source Analysis

Figure 2 shows that the largest Nevada source sector for NO_x emissions is Mobile, with nearly twice the emissions of the next largest source sector, Fuel Combustion. These two source sectors emit 87 percent of Nevada's NO_x emissions. Since the USEPA has focused its "good neighbor" transport control efforts on reducing NO_x as a precursor pollutant of downwind ozone,⁷ the NDEP further evaluated the Mobile and Fuel Combustion source sectors for potential NO_x control strategies.

⁶ Air Emissions Sources. Available at: <http://www3.epa.gov/air/emissions/index.htm> (last viewed 1/8/2016)

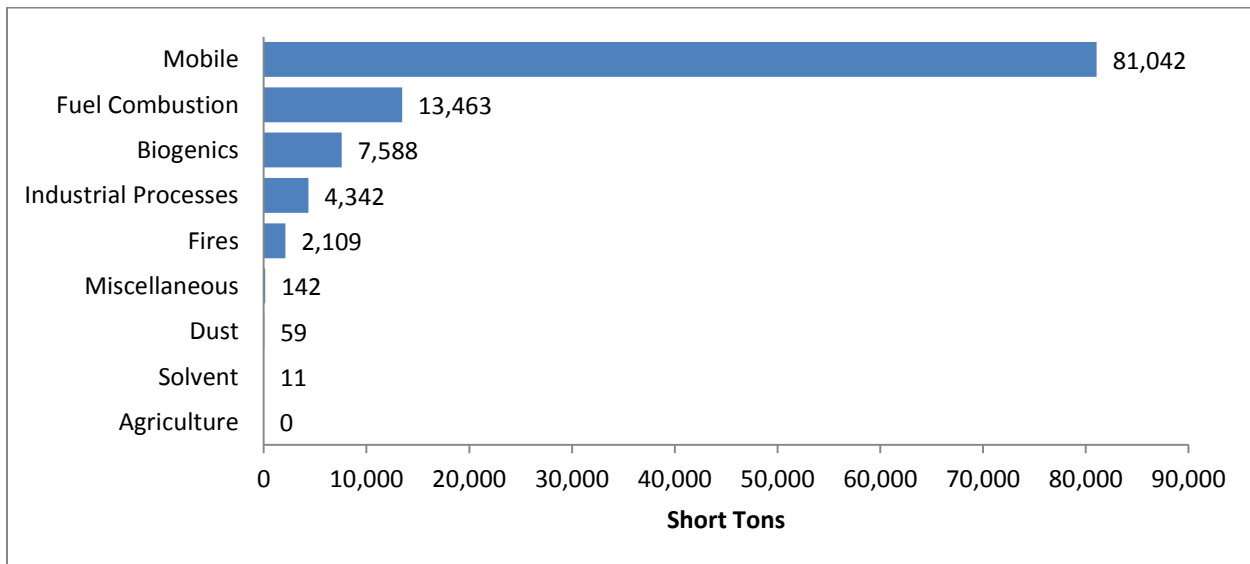
⁷ "Good Neighbor Memo", supra note 1, at 3.

FIGURE 1
NEVADA'S 2011 VOLATILE ORGANIC COMPOUNDS EMISSIONS BY SOURCE SECTOR



http://www3.epa.gov/cgi-bin/broker?_service=data&_debug=0&_program=dataprog.state_1.sas&pol=VOC&stfips=32

FIGURE 2
NEVADA'S 2011 NITROGEN OXIDE EMISSIONS BY SOURCE SECTOR



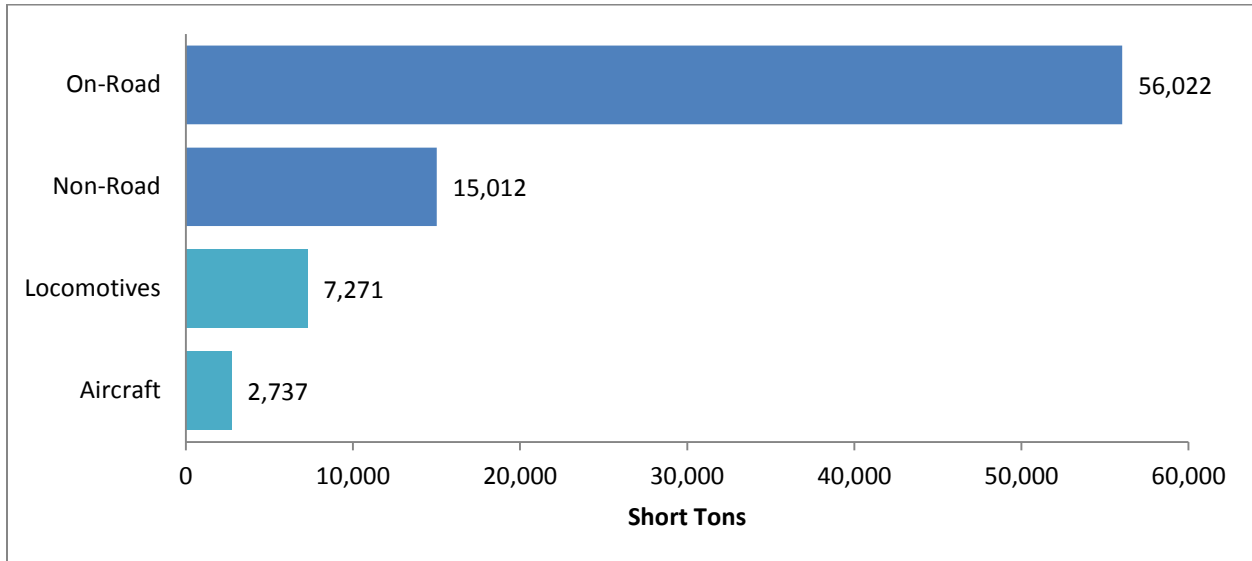
http://www3.epa.gov/cgi-bin/broker?_service=data&_debug=0&_program=dataprog.state_1.sas&pol=NOX&stfips=32

Figure 3 shows On-Road Mobile and Off-Road Mobile emissions account for nearly 90 percent of the Mobile source NO_x emissions, about 75 percent of the statewide NO_x inventory. Mobile source emissions control programs generally fall under federal control⁸, although there are some additional mobile source control programs implemented in Nevada. The NDEP implements a

⁸ Federal Motor Vehicle Control Program. See <http://www3.epa.gov/otaq/standards.htm> (last viewed 1/8/2016)

heavy-duty vehicle program⁹, a clean diesel program¹⁰, an alternative fueled fleet program¹¹, and a light- and medium-duty vehicle inspection and maintenance (I/M) program¹². The Nevada Department of Motor Vehicles administers the annual I/M testing procedures required in Clark County and Washoe County, representing the two largest population centers in the State.

FIGURE 3
NEVADA'S 2011 NITROGEN OXIDE MOBILE SOURCE SECTOR BREAKDOWN



http://www3.epa.gov/cgi-bin/broker?_service=data&_program=dataprog.state_2.sas&_debug=0§or=Mobile&pol=NOX&stfips=32

The Electric Generation source sector comprises more than 50 percent of the Fuel Combustion source sector NO_x emissions, but only about seven percent of the statewide NO_x inventory (Figures 2 and 4). Of the Electric Generation source sector, shown in Figure 5, the Coal source sector makes up more than 80 percent of the NO_x emissions (less than six percent of the statewide inventory). There are currently three coal-fired electric generation facilities operating in Nevada: TS Power Plant near Carlin in Eureka County, Reid Gardner Generating Station (Reid Gardner) just north of Las Vegas in Clark County, and North Valmy Generating Station (North Valmy) northwest of Battle Mountain in Humboldt County.

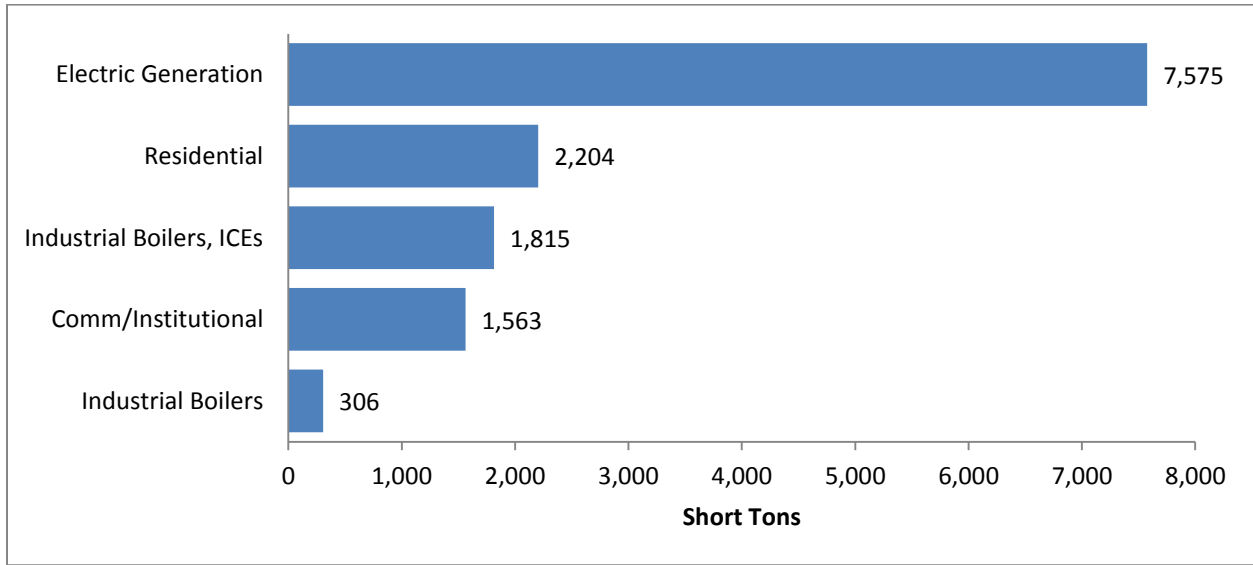
⁹ Heavy-Duty Vehicle Program. See <http://ndep.nv.gov/baqp/technical/mobile.html> (last viewed 1/8/2016)

¹⁰ Nevada State Clean Diesel Program. See <http://ndep.nv.gov/baqp/technical/fa.html> (last viewed 1/8/2016)

¹¹ Alternative Fueled Vehicles in Fleets Program. Ibid.

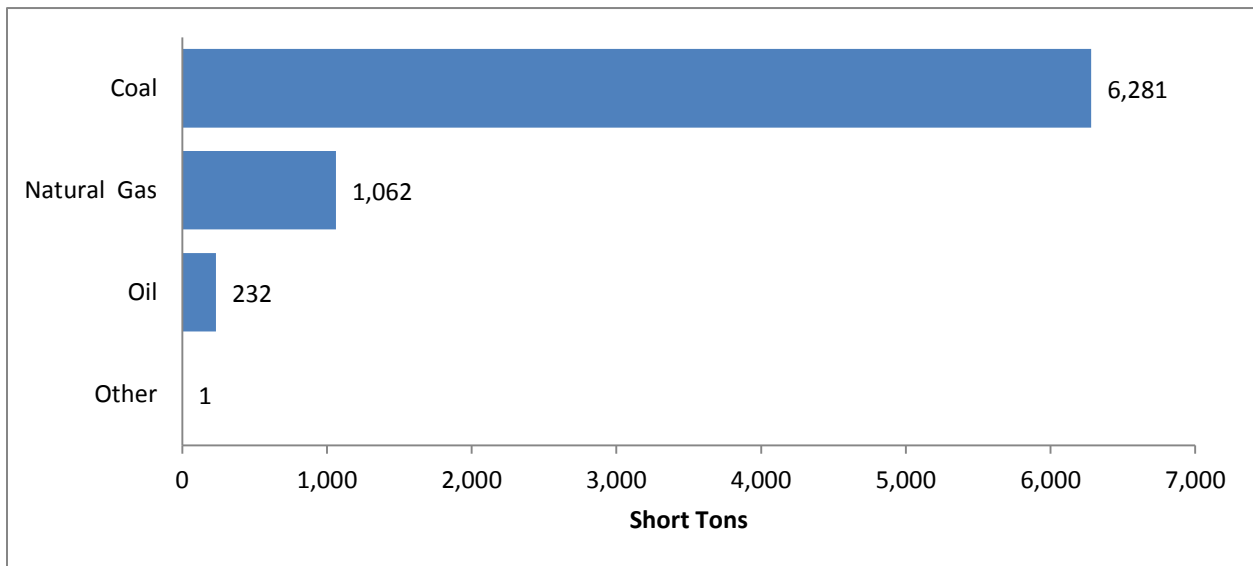
¹² Nevada Emissions Control Program. See <http://dmv.nv.com/emission.htm> (last viewed 1/8/2016)

FIGURE 4
NEVADA'S 2011 NITROGEN OXIDE FUEL COMBUSTION SOURCE SECTOR BREAKDOWN



http://www3.epa.gov/cgi-bin/broker?_service=data&_program=dataprog.state.2.sas&_debug=0§or=FuelCombustion&pol=NOX&stfips=32

FIGURE 5
NEVADA'S 2011 NITROGEN OXIDE ELECTRIC GENERATION SOURCE SECTOR BREAKDOWN



http://www3.epa.gov/cgi-bin/broker?_service=data&_program=dataprog.state.3.sas&_debug=0§or=ElectricGeneration&pol=NOX&stfips=32

The TS Power Plant is a coal-fired 240 MW facility, well controlled for NO_x, with a single boiler controlled by a selective catalytic reduction system, low NO_x coal burners, and over-fire air to reduce NO_x emissions to enforceable emission limits of 0.067 pounds per million Btu and 595.7

tons per year (permitted emission limits).¹³ At Reid Gardner only one remaining coal-fired boiler was operational during 2015, and this boiler will be permanently shut down by December 2017.¹⁴ North Valmy is a coal-fired 500 MW facility with two boilers controlled by low NO_x burners and over-fire air combustion to reduce NO_x emissions to 0.70 pounds per million Btu and 7,849 tons per year for Unit 1 and 0.50 to 0.60 pounds per million Btu and 6,309 tons per year for Unit 2 (permitted emission limits).¹⁵ Unit 1 emitted 2,110 tons and Unit 2 emitted 2,230 tons of NO_x in 2014. North Valmy is jointly owned by Sierra Pacific Power Company (SPPC) (d/b/a NV Energy) and Idaho Power. Both are 50 percent partners in the facility, which is completely operated by NV Energy.

SPPC's 2013 Integrated Resource Plan (IRP) submitted to the Public Utilities Commission of Nevada (PUCN) included a 2021 shutdown date for North Valmy Unit 1 and a 2025 shutdown date for Unit 2.¹⁶ Also in that filing, SPPC mentioned there would be an update in 2016 to a Life Span Analysis Process in regards to North Valmy Unit 1.¹⁷ In April 2015, SPPC filed its "Report on the Progress of Action Plan of the 2011-2030 Integrated Resource Plan of Sierra Pacific Power Company d/b/a NV Energy",¹⁸ in which SPPC changed the date of Unit 1's shutdown from 2021 to 2025.¹⁹ In June of 2015, Idaho Power submitted to the public utilities commissions in Idaho and Oregon their most recent IRP in which they prefer a shutdown date for both units of North Valmy in 2025.²⁰ Because these reports were submitted prior to the USEPA's Clean Power Plan²¹ under section 111(d) of the Clean Air Act, a more concrete idea of when North Valmy will be shutting down should become available from SPPC in its 2016 IRP and in Idaho Power's 2017 IRP, following evaluation of the rule's implications. However, all indications suggest the North Valmy emissions will no longer contribute to the SJVAPCD monitors beyond 2025, if not sooner. Remember the SJVAQMD attainment date is 2031.

Conclusion

Given the projected 2017 design values at the SJVAPCD monitors, the magnitude of local ozone formation and intrastate transport, and the small Nevada contribution to the 2017 projected design values (i.e., less than one percent), the NDEP concludes that emissions from Nevada

¹³ Class I Air Quality Operation Permit AP4911-2502 issued December 29, 2010 by the Nevada Bureau of Air Pollution Control.

¹⁴ Nevada Regional Haze 5-Year Progress Report, November 2014, Section 2.4.2 and Appendix B, Section 3.3.

¹⁵ Class I Air Quality Operating Permit AP4911-0457.03 issued May 28, 2015 by the Nevada Bureau of Air Pollution Control.

¹⁶ PUCN docket 13-07005, Vol 11, Figure Gen-1 at 13. Available at: <http://pucweb1.state.nv.us/PUC2/Dktinfo.aspx?Util=> (last viewed 1/8/2016)

¹⁷ Ibid. at 14.

¹⁸ PUCN docket 15-04001, Original Filing. Available at: <http://pucweb1.state.nv.us/PUC2/Dktinfo.aspx?Util=> (last viewed 1/8/2016)

¹⁹ Ibid. at 29.

²⁰ Idaho Power Integrated Resource Plan 2015, June 2015, page 141. Available at: <https://www.idahopower.com/pdfs/AboutUs/PlanningForFuture/irp/2015/2015IRP.pdf> (last viewed 1/5/2016)

²¹ Carbon Pollution Emissions Guidelines for Existing Stationary Sources: Electric Generating Units; Final Rule, 80 FR 64662, October 23, 2015. Available at: <http://www2.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants> (last viewed 1/8/2016)

sources will not prevent the SJVAPCD from attaining the 2008 ozone NAAQS by the attainment year of 2031. Indeed, after reviewing ozone design values, model source apportionment data, and 2011 NO_x emissions data, USEPA's recent white paper on background ozone in the U.S. observes, "This [data] suggests the conceptual model of attainment planning in California will be to continue to seek in-state NO_x and VOC emission reductions, while assessing the impact of event-driven USB sources like fires and stratospheric intrusions."²² The white paper acknowledges the "generally small impacts from manmade transport from outside the state [i.e., California]."²³ Nevada's controllable anthropogenic VOC emissions are almost nonexistent when compared to the state-wide inventory. NO_x emissions are well controlled by federal regulations as well as statewide statutes, regulations and operating permits. There are no significant uncontrolled anthropogenic NO_x sources under Nevada's jurisdiction.

The Cross-State Air Pollution Rule screening threshold of one percent of the NAAQS is not appropriate in Nevada's situation given the *total* upwind transport contribution is less than 2.25 percent to the design values of the monitors in question, while their 2017 design values actually exceed the standard by five to more than 10 ppb, coupled with the uncertainty of the model results. Further, Nevada will realize significant reductions of NO_x emissions from federal mobile source NO_x regulations, shutdown of the remaining coal-fired boiler at Reid Gardner by the end of 2017, and shutdown of North Valmy by 2025 or sooner. These shutdown dates are well in advance of the 2031 attainment year for the SJVAPCD extreme ozone nonattainment area.

Based on the above information, the State of Nevada upholds the 2013 submittal conclusion that ozone and ozone precursor emissions from Nevada do not contribute to nonattainment or interfere with maintenance of the 2008 8-hour ozone standard in any other state and Nevada's SIP satisfies the interstate transport requirements of CAA section 110(a)(2)(D).

²² Implementation of the 2015 Primary Ozone NAAQS: Issues Associated with Background Ozone White Paper for Discussion, USEPA, 12/22/2015 at page 11. Available at: <http://www3.epa.gov/airquality/ozonepollution/pdfs/whitepaper-bgo3-final.pdf> (last viewed 1/6/16)

²³ Ibid. at 10.