



NEVADA DIVISION OF

**ENVIRONMENTAL
PROTECTION**

SIP Development Plan: Nevada Regional Haze 2021 SIP

*Bureau of Air Quality
Planning March 2020
Final*

Jarbidge Wilderness, Nevada



Photographer: Steven Boutcher

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1 INTRODUCTION AND SCOPE OF PROJECT

This “SIP Development Plan” is intended as a tool to assist the Nevada Division of Environmental Protection’s (NDEP) planning and technical staff in the development of a revision to the Nevada State Implementation Plan (SIP) for the protection of visibility in mandatory Class I Federal areas. This document reviews the regulatory requirements of the program and provides an approach for completing Clean Air Act (CAA) requirements necessary to make reasonable progress toward the national visibility goal over the 2018-2028 planning period.

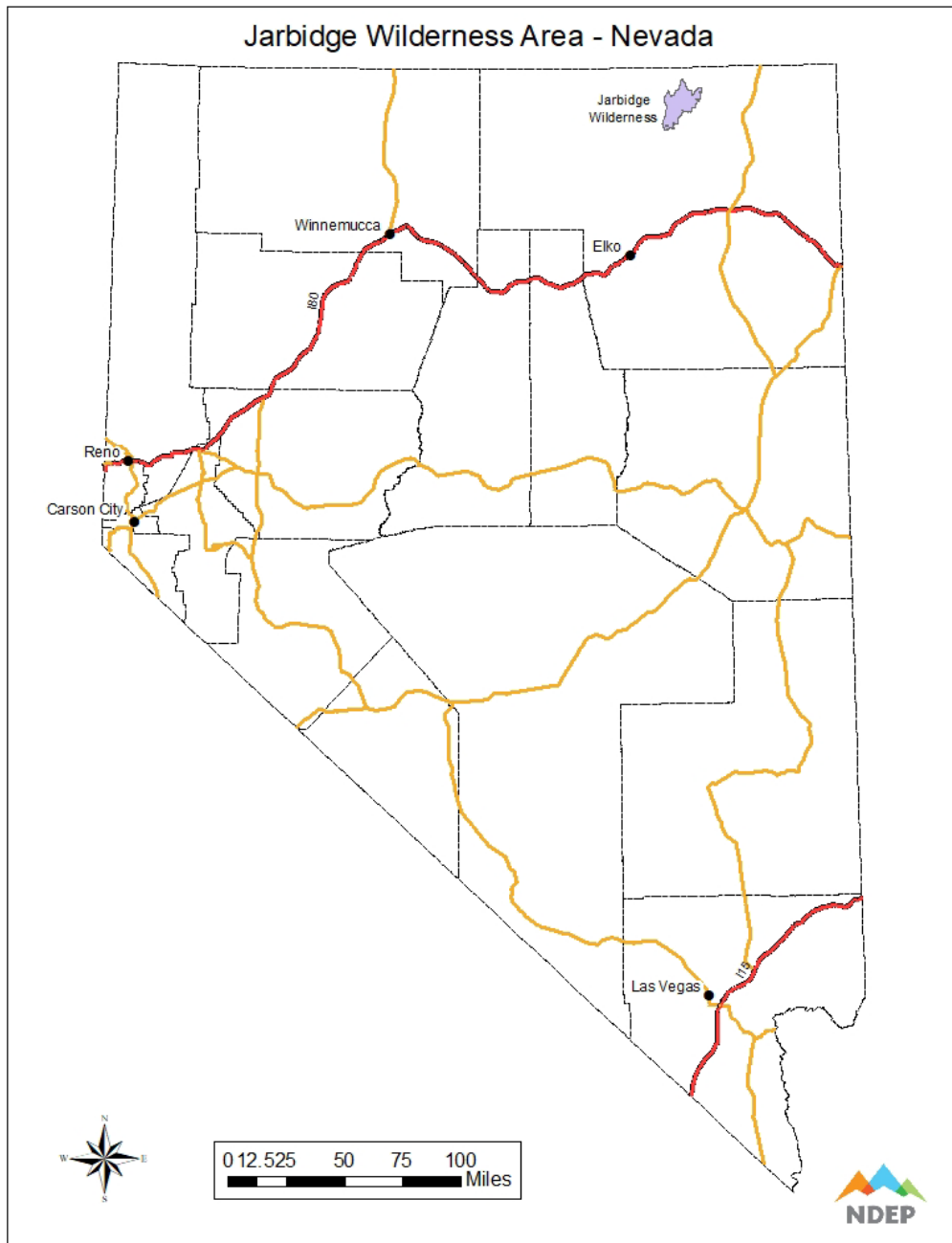
NDEP proposes to accomplish this goal by collaborating closely with stakeholders, federal land managers (FLM), the U.S. Environmental Protection Agency (EPA), the Western Regional Air Partnership (WRAP), tribal representatives, and members of the public. NDEP’s Regional Haze SIP will meet all applicable federal visibility requirements located in 40 CFR Part 51 Subpart P and will provide for an emission reduction strategy that is most appropriate for the State of Nevada. At the conclusion of our planning process, NDEP intends to submit the plan to EPA as a formal SIP revision by the July 31, 2021 deadline.¹

¹ Nevada’s SIP is located at 40 CFR Part 52 Subpart DD

2 NEVADA’S CLASS I AREA

There is only one mandatory Class I Federal area in Nevada covered under federal visibility protection regulations. The Jarbidge Wilderness Area (WA) located in northeastern Nevada near the Idaho border is administered by the U.S. Forest Service. Though Nevada has only one Class I area, the Regional Haze Rule requires that SIP preparation take into consideration the potential impacts from Nevada sources on the Class I areas in neighboring states. Below is a map identifying the location of the Jarbidge Wilderness Area. The Jarbidge WA comprises 113,167 acres.

Figure 1: Nevada’s Class I Area



3 REGULATORY BACKGROUND

Nevada's current Regional Haze Plan includes requirements found in the SIP and subsequent SIP revisions that together create the State's strategy for achieving its 2018 Reasonable Progress Goals (RPGs). NDEP submitted Nevada's first Regional Haze SIP to EPA in 2009, which EPA approved in part and disapproved in part. Following NDEP's initial submittal, EPA finalized a partial approval and partial disapproval of the SIP submittal. A federal implementation plan (FIP) that applied to certain provisions for the now decommissioned Reid Gardner Generating Station has recently been rescinded. Table 1 below is a summary of the regulatory activity that has led to the current Nevada Regional Haze Plan:

Table 1: Nevada Regional Haze Rule Regulatory History

Subpart 308 Regional Haze Actions	
November 2009	NDEP submitted Regional Haze SIP required under 40 CFR 51.308 to EPA.
June 2011	EPA publishes proposed approval of Nevada SIP for the first planning period. ²
March 2012	EPA finalizes approval of most of the Nevada SIP for regional haze for the first planning period, except for BART NOx provisions that apply to the Reid Gardner Generating Station. ³
April 2012	EPA proposes to partially approve and partially disapprove the remaining portions of the Nevada SIP for regional haze. ⁴
August 2012	EPA finalizes approval in part and disapproval in part for the remaining portion of the Nevada SIP. Approval is granted for certain elements that address BART NOx controls at the Reid Gardner Generating Station and disapproving other BART NOx provisions, for which EPA promulgates a FIP that addresses the deficiency. ⁵
March 2013	EPA grants reconsideration of compliance date for the BART emission limits for NOx at the Reid Gardner Generating Station. ⁶
August 2013	EPA takes final action to extent compliance date for BART NOx emission limits for the Reid Gardner Generating Station. ⁷
November 2014	NDEP submits the Nevada Regional Haze 5-Year Progress Report to EPA. ⁸
September 2015	EPA published a proposal to approve an update to the Nevada SIP for regional haze that documents that the existing plan is adequate to achieve visibility improvement goals, based on the results of the 5-year progress report. ⁹
June 2017	EPA publishes Proposed Rule rescinding the visibility protection FIP for the Mohave Generating Station. ¹⁰
August 2017	EPA publishes Final rule to approve a revision to the Nevada Regional Haze

² [76 FR 120. p36450 \(June 22, 2011\)](#)

³ [77 FR 58. p17334 \(March 26, 2012\)](#)

⁴ [77 FR 71. p21896 \(April 12, 2012\)](#)

⁵ [77 FR 77. p50936 \(August 23, 2012\)](#)

⁶ [78 FR 58. p18280 \(March 26, 2013\)](#)

⁷ [78 FR 167. p53033 \(August 28, 2013\)](#)

⁸ [Submittal to EPA \(November 18, 2014\)](#)

⁹ [80 FR 180. p55805 \(September 17, 2015\)](#)

¹⁰ [82 FR 119, p28433 \(June 22, 2017\)](#)

Subpart 308 Regional Haze Actions	
	SIP Progress Report. ¹¹
September 2017	EPA final approval to correct August 8, 2017 final rule. ¹²
October 2017	EPA final rule approving NDEP request to rescind FIP promulgated February 8, 2002 for Mohave Generating Station, because Mohave Generating Station has been decommissioned and demolished. ¹³
May 2018	EPA proposes rule to rescind Regional Haze FIP that was promulgated on August 23, 2012 for Reid Gardner Generating Station. ¹⁴
October 2018	EPA approved NDEP's request to rescind the regional haze FIP for the Reid Gardner Generating Station because the facility ceased operations in 2017 and is being dismantled. ¹⁵

¹¹ [82 FR 151. p37020 \(August 8, 2017\)](#)

¹² [82 FR 171. p42040 \(September 6, 2017\)](#)

¹³ [82 FR 202. p48769 \(October 20, 2017\)](#)

¹⁴ [83 FR 105. p24952 \(May 31, 2018\)](#)

¹⁵ [83 FR 208. P 54053 \(October 26, 2018\)](#)

4 NEVADA’S AMBIENT AIR DATA

The Regional Haze Rule requires states to construct a Uniform Rate of Progress for each Class I area to illustrate and track progress in visibility conditions from the initial start point to natural conditions in 2064. With this tool, states can analyze current ambient air data and confirm it is achieving continuous improvement in visibility if the actual visibility progress falls on or below the Uniform Rate of Progress, as illustrated in Figure 2. NDEP performed an evaluation of Jarbidge WA’s Most Impaired Days on a five-year average from 2014-2018, and determined progress currently falls just above the 2018 Uniform Rate of Progress value. In order to remain on track, the average should be below the 2018 Uniform Rate of Progress threshold. Significant wildfire during this time may be the reason for this, despite the fact that the new Most Impaired Days metric should remove the effects of natural emission sources. For Clearest Days, the Regional Haze Rule only requires no degradation in visibility from the initial 2000-2005 baseline, which Jarbidge WA has achieved with conditions improving. A comparison of current visibility conditions to the respective values needed to remain on track is outlined in Table 2. Looking ahead, NDEP will develop a Long-Term Strategy to continue improving visibility conditions at Jarbidge WA in 2028. The expected visibility conditions in 2028, as a result of the Long-Term Strategy, will fall along the Uniform Rate of Progress as Reasonable Progress Goals.

Figure 2: Jarbidge WA Visibility Trend for Most Impaired Days Compared to the Uniform Rate of Progress

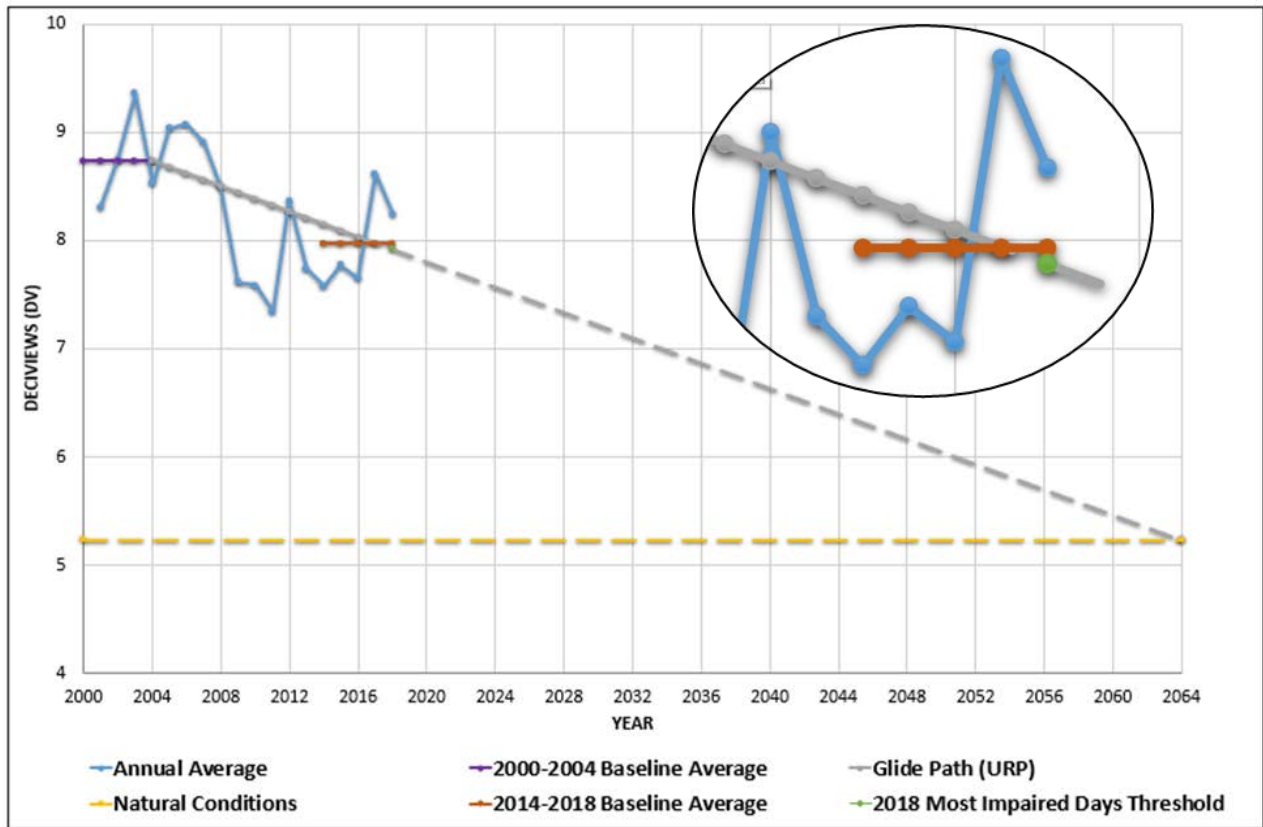


Table 2: 2014-2018 Visibility Metrics

Class I Area	2014-2018 Clearest Days (dv)	Clearest Days Threshold (dv)	Below Clearest Days Threshold?	2014-2018 MID (dv)	MID 2018 URP Value (dv)	On Track for URP?
Jarbidge WA	1.84	2.56	Yes	7.97	7.92	No

5 REQUIRED SIP ELEMENTS UNDER THE CODE OF FEDERAL REGULATIONS

Table 3: Required SIP Elements for the Protection of Visibility

Title 40: Protection of Environment	
PART 51—REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS	
Subpart P—Protection of Visibility	
40 CFR 51.308(f)	Requirements for periodic comprehensive revisions of implementation plans for regional haze.
40 CFR 51.308(f)(1)	Calculations of baseline, current, and natural visibility conditions; progress to date; and the uniform rate of progress.
40 CFR 51.308(f)(2)	Long-Term Strategy for regional haze.
40 CFR 51.308(f)(3)	Reasonable Progress Goals.
40 CFR 51.308(f)(6)	Monitoring strategy and other implementation plan requirements.
40 CFR 51.308(i)	What are the requirements for State and Federal Land Manager coordination?
40 CFR 51.308(i)(2-4)	FLM Consultation Requirements.

The following subsections describe the fundamental steps NDEP will take during development of Nevada’s Regional Haze SIP in order to meet the required SIP elements in Table 3 above.

5.1 Ambient Data Analysis – Calculations of baseline, current, and natural visibility conditions; progress to date; and the uniform rate of progress 40 CFR 51.308(f)(1)(i)-(iv)

In order to meet the requirements of 40 CFR 51.308(f)(1)(i)-(iv) state SIP submittals need to include an analysis of ambient air data from Nevada’s Class I area IMPROVE monitor and the calculation of visibility tracking metrics.

NDEP will perform this analysis and calculations in accordance with the requirements outlined in the U.S. Code of Federal Regulations and with consideration of relevant EPA technical guidance.^{16,17}

NDEP has reviewed monitor data at the Jarbidge WA and concluded that the dataset is sufficiently

¹⁶ “Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program” U.S. Environmental Protection Agency. Office of Air Quality Planning and Standards. December 20, 2018.

¹⁷ “Guidance on Regional Haze State Implementation Plans for the Second Implementation Period”. U.S. Environmental Protection Agency. Office of Air Quality Planning and Standards. August 2019.

complete in order to perform the ambient data analysis and metric calculations.

5.2 Emission Inventory and Air Quality Modeling – Long-term strategy for regional haze 40 CFR 51.308(f)(2) and Reasonable progress goals (f)(3)

In order to meet the requirements at 40 CFR 51.308(f)(2) and 40 CFR 51.308(f)(3) for the development of the Long-Term Strategy and Reasonable Progress Goals, NDEP will develop, in collaboration with WRAP and other western states, emission inventories to be used in a regional photochemical air quality model to establish the impact of Nevada's sources on effected Class I areas. Currently planned are an updated 2014 emission inventory, and a projected 2028 emission inventory. NDEP intends to use these products to demonstrate that the Long-Term Strategy and Reasonable Progress Goals provide for an improvement in visibility on the most impaired days and ensure no degradation in visibility on the clearest days. Furthermore, NDEP intends to use the 2028 emission inventory to model any control measures identified during the four factor analysis (see § 5.3) to demonstrate that projected 2028 Reasonable Progress Goals are appropriate for this planning period relative to the URP. For more information related to the modeling timeline, please refer to the WRAP 2018-2019 Regional Haze Work Plan, Appendix E and G.¹⁸

5.3 Screening of Sources and Control Measure Analysis – Long-term strategy for regional haze 40 CFR 51.308(f)(2)

In order to meet the requirements of 40 CFR 51.308(f)(2) for the development of a Long-Term Strategy for regional haze, NDEP will address visibility impairment in effected Class I areas and include enforceable emission limitations, compliance schedules, and other measures necessary to make reasonable progress.

To meet these requirements, NDEP and the WRAP states have developed a source screening methodology to determine which anthropogenic sources of visibility impairment should be evaluated further under the four statutory factors outlined in 40 CFR 51.308(f)(2)(i). The source screening method is based on an analysis of a source's annual emissions divided by the distance in kilometers from the nearest Class I area as a surrogate for potential visibility impacts. Once a final list is determined from the screened sources, NDEP will work with individual sources to determine if NDEP or the source is best prepared to perform the four factor analysis. This consultation with the source will entail a discussion of the current status of operations and any plans for additional or modified emission controls. Then, NDEP or the source will conduct a control measure analysis taking into account the four statutory factors: the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected anthropogenic source of visibility impairment.

In addition to the above requirements, 40 CFR 51.308(f)(2)(ii) includes requirements to consult with other states. NDEP will meet this requirement through participation in the WRAP and individual state-to-state consultation meetings with surrounding states to discuss emissions emanating from both within and outside our state which are reasonably anticipated to contribute to visibility impairment in a mandatory Class I area. NDEP will include any agreed upon measures resulting from the state to state consultation in our SIP submittal, or in case of disagreement, outline actions taken by NDEP to resolve the disagreement.

To meet the requirements outlined in 40 CFR 51.308(f)(2)(iii), NDEP intends to rely on both internal and regionally developed technical analyses. NDEP is working with the WRAP to perform photochemical grid modeling for the region and has been heavily involved in the development of the regional monitoring, modeling, and emission inventory technical products. NDEP intends to combine this information with

¹⁸ [Available on the WRAP Technical Steering Committee website.](#)

internal products and analysis to form the technical basis for our submittal.

Lastly, and in accordance with 40 CFR 51.308(f)(2)(iv), NDEP intends to consider all five factors listed in this sub-section of the rule in the development of our long-term strategy. NDEP will take into account:

- a) Emission reductions from state and federal air pollution control programs;
- b) Measures to mitigate impacts of construction activities;
- c) Source retirements and replacement schedules;
- d) Basic smoke management practices for prescribed fire as implemented through Nevada’s Smoke Management Program and similar local programs; and
- e) Future growth of point, area, and mobile source categories.

5.4 Consultation and Coordination – FLM Consultation Requirements 40 CFR 51.308(l)(2-4)

In order to meet the requirements of 40 CFR 51.308(l) for consultation with FLMs, NDEP plans to engage FLMs at several points during the development of this SIP as required in 40 CFR 51.308(i)(2). In keeping with 40 CFR 51.308(l)(2), consultation must occur early enough in the SIP process so that FLMs can provide the State with input that helps inform NDEP’s development of the Long-Term Strategy. Currently, NDEP engages with FLMs through interactions with WRAP, but will further engage with FLMs through future agency stakeholder outreach events, phone calls, and emails to discuss project deliverables. NDEP has contacts for three federal agencies, one of which has jurisdiction over the Jarbidge WA in Nevada. Those contacts are listed in Table 4 below.

Table 4: FLM Contacts

Agency	Contact
U.S. National Park Service	Kirsten King
U.S. Forest Service	Bret Anderson
U.S. Fish and Wildlife Service	Tim Allen

In addition, NDEP will continue to work in consultation with the Clark County Department of Environment and Sustainability and the Washoe County Air Quality Management Division. These two county air quality agencies have been delegated air quality permitting authority for their respective jurisdictions and will be instrumental partners in working with sources in their areas. The primary contacts for these agencies are listed in Table 5 below.

Table 5: Nevada County AQ Departments

Agency	Contact
Clark County Department of Environment and Sustainability	Mike Sword, Planning Manager
Washoe County Air Quality Management Division	Dan Inouye, Air Quality Supervisor for Planning

6 SIP DEVELOPMENT TIMELINE

NDEP has developed a timeline in Table 6 below, which outlines timeframes for stakeholder feedback including EPA, FLMs, stakeholders, and the public. The timeframes were created largely in accordance with tentative product delivery and task completion dates in the WRAP 2018-2019 Regional Haze Work Plan, as well as internal NDEP planning requirements. NDEP anticipates continuous involvement and feedback from EPA during this SIP revision timeline, including:

1. Participation in WRAP Regional Haze Planning Calls and Discussions;
2. Participation in NDEP stakeholder meetings;
3. Participation in NDEP-FLM consultation calls; and
4. Engaging with NDEP to provide feedback related to potential SIP approvability issues for planning and technical products as detailed in Table 6.

Table 6: SIP Development Timeline

Planning Task	Start Date	End Date	NDEP Task
2028 Emission Inventory	September 2018	June 2019	Review projected emissions, facility information
2028 On-the- Books Air Quality Modeling	September 2019	December 2019	Finalize facility-specific modeling parameters for WRAP
Class I Area Monitoring Data and Progress	May 2019	May 2020	Review monitoring data
Source Screening	June 2019	August 2019	Conduct source screening; send notification letters
General Stakeholder Meetings	January 2020	March 2021	Hold meetings
Control Measure Analysis	January 2020	March 2020	Perform analysis of technological & economic feasibility of controls
2028 Control Scenarios Modeling	February 2020	April 2020	Provide control modeling parameters to WRAP
SIP and Rule Development	April 2020	May 2021	Write draft SIP; develop regulations if needed

Planning Task	Start Date	End Date	NDEP Task
EPA and FLM “Early Consultation”	January 2021	March 2021	Perform FLM and EPA Consultation
Public Comment Period	March 2021	May 2021	Engage stakeholders and process feedback
Final Edits and SIP Submittal	May 2021 to submittal date: July 31, 2021		

7 AGENCY CONTACTS

Table 7: NDEP Staff Assignments and Contact Information

Title	Staff	Assigned (Phone #)
BAQP Bureau Chief	Danilo Dragoni	775-687-9340
BAQP Environmental Scientist Supervisor	Sig Jaunarajs	775-687-9392
BAQP Environmental Scientist	Steven McNeece	775-687-9364

Table 8: Region 9 EPA Contacts

Role	Staff	Assigned (Phone #)
Planning Staff Contact	Panah Stauffer	415-972-3247
Air Quality Analysis Staff Contact	Scott Bohning	415-947-4127
Rules Staff Contact	Unassigned	Unassigned
Planning Office Management Contact	Anita Lee	415-972-3958
Air Quality Analysis Office Management Contact	Gwen Yoshimura	415-947-4134
Rules Office Management Contact	Doris Lo	415-972-3959