

## DOCKETED

<b>Docket Number:</b>	12-AFC-03
<b>Project Title:</b>	Redondo Beach Energy Project
<b>TN #:</b>	201389
<b>Document Title:</b>	Data Response Set 1A
<b>Description:</b>	Response to Data Request 9
<b>Filer:</b>	Sarah Madams
<b>Organization:</b>	CH2M HILL
<b>Submitter Role:</b>	Applicant Consultant
<b>Submission Date:</b>	12/9/2013 1:12:03 PM
<b>Docketed Date:</b>	12/9/2013



CH2M HILL  
2485 Natomas Park Drive  
Suite 600  
Sacramento, CA  
95833-2937  
Tel: 916.920.0300  
Fax: 916.920.8463

December 9, 2013

Ms. Patricia Kelly  
Project Manager  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814-5512

Subject: Redondo Beach Energy Project (12-AFC-03)  
Data Response Set 1A – Response to CEC Staff Data Request 9

Dear Ms. Kelly:

Attached please find the Redondo Beach Energy Project's Data Response Set 1A, which provides a response to Data Request 9. This submittal completes the responses to Data Request Set 1A 1 through 47, prepared in response to California Energy Commission Staff Data Requests 1 through 47 for the Application for Certification for the Redondo Beach Energy Project (12-AFC-03) dated October 15, 2013.

In addition, five copies of the modeling files (on DVD) discussed in the Data Response Set 1A 8-10 and 20-23 submitted on December 6, 2013, are included with this submittal. Additional copies are available upon request.

If you have any questions about this matter, please contact me at (916) 286-0249 or Mr. Jerry Salamy at (916) 286-0207.

Sincerely,

CH2M HILL

A handwritten signature in black ink, appearing to read "Sarah Madams", written over a white background.

Sarah Madams  
AFC Project Manager

Attachment

cc: S. O'Kane, AES  
G. Wheatland, ESH  
J. Salamy, CH2M HILL

---

# Redondo Beach Energy Project

(12-AFC-03)

## Data Responses, Set 1A

(Response to Data Request 9)

Submitted to  
**California Energy Commission**

Prepared by  
**AES Southland Development, LLC**

With Assistance from

**CH2MHILL®**

2485 Natomas Park Drive  
Suite 600  
Sacramento, CA 95833

December 9, 2013

# Contents

---

Section	Page
Contents .....	ii
Introduction.....	1
Air Quality (9) .....	2

## Tables

DR9-1	Maximum Modeled Impacts from RBEP Operation with Demolition of RBGS Units 5-8 and 17 Compared to the Ambient Air Quality Standards
-------	--

## Attachments (provided at the end of their respective sections)

DR9-1	Supporting Documentation for Impacts Analysis of RBEP Operation with Demolition of RBGS Units 5-8 and 17
-------	--

# Introduction

---

Attached are AES Southland Development, LLC's (AES-SLD or the Applicant) responses to the California Energy Commission (CEC) Data Request, Set 1A (number 9) regarding the Redondo Beach Energy Project (RBEP) (12-AFC-03) Application for Certification (AFC).

The responses are grouped by individual discipline or topic area. Within each discipline area, the responses are presented in the same order as the CEC presented them and are keyed to the Data Request number (9).

New or revised graphics or tables are numbered in reference to the Data Request number. For example, the first table used in response to Data Request 9 would be numbered Table DR9-1. The first figure used in response to Data Request 22 would be numbered Figure DR22-1, and so on. Figures or tables from the RBEP AFC that have been revised have "R" following the original number, indicating a revision.

Additional tables, figures, or documents submitted in response to a data request (for example, supporting data, standalone documents such as plans, folding graphics, etc.) are found at the end of each discipline-specific section and are not sequentially page-numbered consistently with the remainder of the document, though they may have their own internal page numbering system.

# Air Quality (9)

## DATA REQUEST

9. Please model the impacts from emissions associated with the demolition of units 5–8 and auxiliary boiler 17 and simultaneous operation of the proposed RBEP.

**Response:** A modeling analysis was conducted using the worst-case RBEP operating scenario for each pollutant and averaging time, as presented in Table 1 of Attachment DR9-1<sup>1</sup>, along with the worst-case short-term and annual emissions associated with the demolition of RBGS Units 5-8 and 17 and construction of control/administration, water treatment building, and install the sound wall, as shown in Attachment DR8-1. Meteorological data and model settings were the same as outlined in AFC Section 5.1.6.3, with the exceptions outlined in the response to DR-8. Note, however, that the modeling hour limitation described in the response to DR-8 was not necessary to demonstrate compliance with the AAQS for this data response.

Table DR9-1 presents a comparison of the maximum modeled concentrations to the AAQS. As shown, the maximum NO<sub>2</sub>, SO<sub>2</sub>, and CO concentrations combined with the background concentrations do not exceed the AAQS. Therefore, operation of the proposed RBEP with demolition of RBGS Units 5-8 and 17 will not cause or contribute to the violation of a standard, and the NO<sub>2</sub>, SO<sub>2</sub>, and CO impacts will be less than significant.

The background PM<sub>10</sub> concentrations exceed the state AAQS without adding the modeled concentrations. Similarly, the PM<sub>2.5</sub> background concentrations exceed both the state and federal AAQS without adding the modeled concentrations. As a result, when the predicted PM<sub>10</sub> and PM<sub>2.5</sub> concentrations resulting from demolition of units 5–8 and auxiliary boiler 17 and the concurrent operation of the proposed RBEP are added to existing background PM<sub>10</sub> and PM<sub>2.5</sub> concentrations, the total concentration will be greater than the AAQS. The modeling analysis demonstrates that fugitive dust is a significant contributor to the predicted concentrations, and the maximum PM<sub>10</sub> and PM<sub>2.5</sub> concentrations will remain near the property boundary.

A summary of the dispersion modeling input files for operation of the proposed RBEP with demolition of RBGS Units 5-8 and 17, as well as the complete modeling results, are presented in Attachment DR9-1. The AERMOD input and output files have been separately prepared and are included with this submission on compact disc.

TABLE DR9-1

**Maximum Modeled Impacts from RBEP Operation with Demolition of RBGS Units 5-8 and 17 Compared to the Ambient Air Quality Standards**

Pollutant	Averaging Time	Maximum Modeled Concentration (µg/m <sup>3</sup> )	Background Concentration (µg/m <sup>3</sup> ) <sup>a</sup>	Total Predicted Concentration (µg/m <sup>3</sup> )	State Standard (µg/m <sup>3</sup> )	Federal Standard (µg/m <sup>3</sup> )
NO <sub>2</sub> <sup>b</sup>	1-hour	66.1	169	235	339	—
	Federal 1-hour <sup>c</sup>	-	-	162	—	188
	Annual	3.49	29.9	33.4	57	100
SO <sub>2</sub>	1-hour	3.35	67.8	71.2	655	—
	Federal 1-hour <sup>d</sup>	3.35	37.5	40.9	—	196
	3-hour	1.53	38.7	40.2	—	1,300
	24-hour	0.50	15.7	16.2	105	365
CO	1-hour	192	4,581	4,773	23,000	40,000
	8-hour	69.7	2,863	2,933	10,000	10,000

<sup>1</sup> Note that the results presented in Table 1 of Attachment DR9-1 are based on modeling of actual load conditions and are, therefore, different than those presented in AFC Table 5.1-24, which were based on a screening analysis.

TABLE DR9-1

**Maximum Modeled Impacts from RBEP Operation with Demolition of RBGS Units 5-8 and 17 Compared to the Ambient Air Quality Standards**

Pollutant	Averaging Time	Maximum Modeled Concentration ( $\mu\text{g}/\text{m}^3$ )	Background Concentration ( $\mu\text{g}/\text{m}^3$ ) <sup>a</sup>	Total Predicted Concentration ( $\mu\text{g}/\text{m}^3$ )	State Standard ( $\mu\text{g}/\text{m}^3$ )	Federal Standard ( $\mu\text{g}/\text{m}^3$ )
PM <sub>10</sub>	24-hour	23.3	52.0	75.3	50	150
	Annual	5.44	25.6	31.0	20	—
PM <sub>2.5</sub>	24-hour <sup>e</sup>	3.83	35.3	39.1	—	35
	Annual	0.78	15.5	16.3	12	12

<sup>a</sup> Background concentrations were the highest concentrations monitored during 2008 through 2010.

<sup>b</sup> The maximum 1-hour and annual NO<sub>2</sub> concentrations include ambient NO<sub>2</sub> ratios of 0.80 (EPA, 2011) and 0.75 (EPA, 2005), respectively.

<sup>c</sup> Total predicted concentration for the federal 1-hour NO<sub>2</sub> standard is the maximum modeled concentration paired with the 3-year average of 98th percentile seasonal, hourly background concentrations, as provided by the SCAQMD.

<sup>d</sup> Total predicted concentration for the federal 1-hour SO<sub>2</sub> standard is the maximum modeled concentration combined with the 3-year average of 99th percentile background concentrations.

<sup>e</sup> Total predicted concentration for the federal 24-hour PM<sub>2.5</sub> standard is the maximum modeled concentration combined with the 3-year average of 98th percentile background concentrations.

**References:**

U.S. Environmental Protection Agency (EPA). 2005. *Guideline on Air Quality Models, 40 Code of Federal Regulations, Part 51, Appendix W*. November.

U.S. Environmental Protection Agency (EPA). 2011. *Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO<sub>2</sub> National Ambient Air Quality Standard*. March.

**Attachment DR9-1**  
**Supporting Documentation for Impacts Analysis of**  
**RBEP Operation with Demolition of RBGS Units**  
**5-8 and 17**

---



Redondo Beach Energy Project  
 Attachment DR9-1 Table 1  
 Operational Load Analysis Results  
 December 2013

Scenario	Ambient Temperature (°F)	Humidity (%)	Load (%)	Duct Burner Firing?	Exhaust Temperature (°F)	Exit Velocity (ft/s)	Emissions per Turbine (lb/hr)										Maximum Facility Impacts (µg/m <sup>3</sup> ) *											
							NOx		CO		SO <sub>2</sub>			PM <sub>10</sub>		PM <sub>2.5</sub>		NOx		CO		SO <sub>2</sub>		PM <sub>10</sub>		PM <sub>2.5</sub>		
							(1-hour)	(Annual)	(1-hour)	(8-hour)	(1-hour)	(3-hour)	(24-hour)	(24-hour)	(Annual)	(24-hour)	(Annual)	(1-hour)	(Annual)	(1-hour)	(8-hour)	(1-hour)	(3-hour)	(24-hour)	(24-hour)	(Annual)	(24-hour)	(Annual)
1	33	93.8	100	Yes	398	79.0	25.4	-	114	48.3	2.63	2.63	2.63	9.50	-	9.50	-	32.4	-	145	18.4	<b>3.35</b>	<b>1.47</b>	0.34	1.23	-	1.23	-
2	33	93.8	100	No	402	79.0	25.4	-	114	46.9	1.96	1.96	1.96	4.50	-	4.50	-	32.4	-	145	17.8	2.50	1.09	0.25	0.58	-	0.58	-
3	33	93.8	90	No	393	70.8	25.4	-	114	46.5	1.78	1.78	1.78	4.50	-	4.50	-	34.3	-	154	22.5	2.41	1.14	0.35	0.87	-	0.87	-
4	33	93.8	80	No	384	62.7	25.4	-	114	46.2	1.60	1.60	1.60	4.50	-	4.50	-	36.6	-	164	29.5	2.30	1.30	0.43	1.20	-	1.20	-
5	33	93.8	70	No	374	54.7	25.4	-	114	45.8	1.44	1.44	1.44	4.50	-	4.50	-	38.8	-	174	33.1	2.19	1.32	0.46	1.44	-	1.44	-
6	63.3	75.2	100	Yes	396	74.8	25.4	-	114	48.1	2.51	2.51	2.51	9.50	-	9.50	-	33.7	-	151	19.1	3.32	1.46	0.36	1.35	-	1.35	-
7	63.3	75.2	100	No	400	74.7	25.4	9.24	114	46.7	1.84	1.84	1.84	4.50	3.78	4.50	3.78	33.7	0.35	151	18.5	2.43	1.07	0.26	0.64	0.15	0.64	0.15
8	63.3	75.2	90	No	390	66.9	25.4	8.55	114	46.3	1.66	1.66	1.66	4.50	3.78	4.50	3.78	35.5	0.37	159	23.3	2.32	1.11	0.34	0.92	0.17	0.92	0.17
9	63.3	75.2	80	No	381	59.7	25.4	7.96	114	46.0	1.50	1.50	1.50	4.50	3.78	4.50	3.78	37.3	0.39	167	30.4	2.20	1.26	0.43	1.29	0.19	1.29	0.19
10	63.3	75.2	70	No	373	52.4	25.4	7.43	114	45.7	1.35	1.35	1.35	4.50	3.78	4.50	3.78	39.4	<b>0.42</b>	176	35.3	2.09	1.33	<b>0.48</b>	1.61	<b>0.21</b>	1.61	<b>0.21</b>
11	106	9.6	100	Yes	415	74.4	25.4	-	114	47.9	2.45	2.45	2.45	9.50	-	9.50	-	33.7	-	151	18.7	3.24	1.40	0.34	1.32	-	1.32	-
12	106	9.6	100	No	406	73.2	25.4	-	114	46.6	1.78	1.78	1.78	4.50	-	4.50	-	33.9	-	152	18.5	2.37	1.04	0.25	0.64	-	0.64	-
13	106	9.6	90	No	388	61.7	25.4	-	114	45.9	1.48	1.48	1.48	4.50	-	4.50	-	36.9	-	165	29.5	2.14	1.21	0.40	1.21	-	1.21	-
14	106	9.6	80	No	381	55.9	25.4	-	114	45.7	1.35	1.35	1.35	4.50	-	4.50	-	38.3	-	171	31.6	2.03	1.19	0.41	1.38	-	1.38	-
15	106	9.6	70	No	374	49.5	25.4	-	114	45.4	1.22	1.22	1.22	4.50	-	4.50	-	<b>40.1</b>	-	<b>179</b>	<b>38.0</b>	1.92	1.32	0.47	<b>1.73</b>	-	<b>1.73</b>	-

\*Bold, underlined values indicate the scenario with the maximum facility impacts.

Redondo Beach Energy Project  
 Attachment DR9-1 Table 2  
 Operational Modeling Parameters  
 December 2013

**Point Sources**

Pollutant	Scenario	Source ID	Easting (X) (m)	Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
1-hour SO <sub>2</sub> , 3-hour SO <sub>2</sub>	1	Stack 1	371060	3746515	4.4	42.7	476	24.1	5.49
		Stack 2	371096	3746520	4.4	42.7	476	24.1	5.49
		Stack 3	371132	3746525	4.4	42.7	476	24.1	5.49
24-hour SO <sub>2</sub> , Annual NOx, Annual PM <sub>10</sub> , Annual PM <sub>2.5</sub>	10	Stack 1	371060	3746515	4.4	42.7	462	16.0	5.49
		Stack 2	371096	3746520	4.4	42.7	462	16.0	5.49
		Stack 3	371132	3746525	4.4	42.7	462	16.0	5.49
1-hour NOx, CO, 24-hour PM <sub>10</sub> , 24-hour PM <sub>2.5</sub>	15	Stack 1	371060	3746515	4.4	42.7	463	15.1	5.49
		Stack 2	371096	3746520	4.4	42.7	463	15.1	5.49
		Stack 3	371132	3746525	4.4	42.7	463	15.1	5.49

Redondo Beach Energy Project  
 Attachment DR9-1 Table 3  
 Operation/Demolition Source Parameters  
 December 2013

Area Sources														
Source ID	FLAT (Non-Default)	Source Description	Base Elevation (m)	Release Height (m)	Number of Vertices	Initial Vert. Dimension (m)	Eastng (X1) (m)	Northing (Y1) (m)	Eastng (X2) (m)	Northing (Y2) (m)	Eastng (X3) (m)	Northing (Y3) (m)	Eastng (X4) (m)	Northing (Y4) (m)
DEMOFUG		Demo 5-8 and 17	4.42	0	4	1	370990	3746179	370850	3746500	370964.607	3746549.9	371104.333	3746229

Volume Sources							
Source ID	Eastng (X1) (m)	Northing (Y1) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
DEM01	370996	3746196	4.4196	4.6	533.00	18.00	0.127
DEM02	370986	3746218	4.4196	4.6	533.00	18.00	0.127
DEM03	370976	3746241	4.4196	4.6	533.00	18.00	0.127
DEM04	370966	3746264	4.4196	4.6	533.00	18.00	0.127
DEM05	370956	3746287	4.4196	4.6	533.00	18.00	0.127
DEM06	370946	3746310	4.4196	4.6	533.00	18.00	0.127
DEM07	370936	3746333	4.4196	4.6	533.00	18.00	0.127
DEM08	370926	3746356	4.4196	4.6	533.00	18.00	0.127
DEM09	370916	3746379	4.4196	4.6	533.00	18.00	0.127
DEM10	370906	3746402	4.4196	4.6	533.00	18.00	0.127
DEM11	370896	3746425	4.4196	4.6	533.00	18.00	0.127
DEM12	370886	3746448	4.4196	4.6	533.00	18.00	0.127
DEM13	370876	3746471	4.4196	4.6	533.00	18.00	0.127
DEM14	370866	3746494	4.4196	4.6	533.00	18.00	0.127
DEM15	371019	3746206	4.4196	4.6	533.00	18.00	0.127
DEM16	371009	3746228	4.4196	4.6	533.00	18.00	0.127
DEM17	370999	3746251	4.4196	4.6	533.00	18.00	0.127
DEM18	370989	3746274	4.4196	4.6	533.00	18.00	0.127
DEM19	370979	3746297	4.4196	4.6	533.00	18.00	0.127
DEM20	370969	3746320	4.4196	4.6	533.00	18.00	0.127
DEM21	370959	3746343	4.4196	4.6	533.00	18.00	0.127
DEM22	370949	3746366	4.4196	4.6	533.00	18.00	0.127
DEM23	370939	3746389	4.4196	4.6	533.00	18.00	0.127
DEM24	370929	3746412	4.4196	4.6	533.00	18.00	0.127
DEM25	370919	3746435	4.4196	4.6	533.00	18.00	0.127
DEM26	370909	3746458	4.4196	4.6	533.00	18.00	0.127
DEM27	370899	3746481	4.4196	4.6	533.00	18.00	0.127
DEM28	370889	3746504	4.4196	4.6	533.00	18.00	0.127
DEM29	371042	3746216	4.4196	4.6	533.00	18.00	0.127
DEM30	371032	3746238	4.4196	4.6	533.00	18.00	0.127
DEM31	371022	3746261	4.4196	4.6	533.00	18.00	0.127
DEM32	371012	3746284	4.4196	4.6	533.00	18.00	0.127
DEM33	371002	3746307	4.4196	4.6	533.00	18.00	0.127
DEM34	370992	3746330	4.4196	4.6	533.00	18.00	0.127
DEM35	370982	3746353	4.4196	4.6	533.00	18.00	0.127
DEM36	370972	3746376	4.4196	4.6	533.00	18.00	0.127
DEM37	370962	3746399	4.4196	4.6	533.00	18.00	0.127
DEM38	370952	3746422	4.4196	4.6	533.00	18.00	0.127
DEM39	370942	3746445	4.4196	4.6	533.00	18.00	0.127
DEM40	370932	3746468	4.4196	4.6	533.00	18.00	0.127
DEM41	370922	3746491	4.4196	4.6	533.00	18.00	0.127
DEM42	370912	3746513	4.4196	4.6	533.00	18.00	0.127
DEM43	371065	3746225	4.4196	4.6	533.00	18.00	0.127
DEM44	371055	3746248	4.4196	4.6	533.00	18.00	0.127
DEM45	371045	3746271	4.4196	4.6	533.00	18.00	0.127
DEM46	371035	3746294	4.4196	4.6	533.00	18.00	0.127
DEM47	371025	3746317	4.4196	4.6	533.00	18.00	0.127
DEM48	371015	3746340	4.4196	4.6	533.00	18.00	0.127
DEM49	371005	3746363	4.4196	4.6	533.00	18.00	0.127
DEM50	370995	3746386	4.4196	4.6	533.00	18.00	0.127
DEM51	370985	3746409	4.4196	4.6	533.00	18.00	0.127
DEM52	370975	3746432	4.4196	4.6	533.00	18.00	0.127
DEM53	370965	3746455	4.4196	4.6	533.00	18.00	0.127
DEM54	370955	3746478	4.4196	4.6	533.00	18.00	0.127
DEM55	370945	3746501	4.4196	4.6	533.00	18.00	0.127
DEM56	370935	3746523	4.4196	4.6	533.00	18.00	0.127
DEM57	371088	3746235	4.4196	4.6	533.00	18.00	0.127
DEM58	371078	3746258	4.4196	4.6	533.00	18.00	0.127
DEM59	371068	3746281	4.4196	4.6	533.00	18.00	0.127
DEM60	371058	3746304	4.4196	4.6	533.00	18.00	0.127
DEM61	371048	3746327	4.4196	4.6	533.00	18.00	0.127
DEM62	371038	3746350	4.4196	4.6	533.00	18.00	0.127
DEM63	371028	3746373	4.4196	4.6	533.00	18.00	0.127
DEM64	371018	3746396	4.4196	4.6	533.00	18.00	0.127
DEM65	371008	3746419	4.4196	4.6	533.00	18.00	0.127
DEM66	370998	3746442	4.4196	4.6	533.00	18.00	0.127
DEM67	370988	3746465	4.4196	4.6	533.00	18.00	0.127
DEM68	370978	3746488	4.4196	4.6	533.00	18.00	0.127
DEM69	370968	3746511	4.4196	4.6	533.00	18.00	0.127
DEM70	370958	3746533	4.4196	4.6	533.00	18.00	0.127

Redondo Beach Energy Project  
 Attachment DR9-1 Table 4  
 Operation/Demolition Modeling Parameters - Emission Rates  
 December 2013

**Emission Rates for 1-hour, 3-hour, 8-hour, and 24-hour Modeling**

Source ID	1-hour NO <sub>2</sub>		1-hour CO		8-hour CO		1-hour SO <sub>2</sub>		3-hour SO <sub>2</sub>		24-hour SO <sub>2</sub>		24-hour PM <sub>10</sub>		24-hour PM <sub>2.5</sub>	
	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)
Stack 1	3.21	25.4	14.35	114	5.72	45.4	0.33	2.63	0.33	2.63	0.17	1.35	0.57	4.50	0.57	4.50
Stack 2	3.21	25.4	14.35	114	5.72	45.4	0.33	2.63	0.33	2.63	0.17	1.35	0.57	4.50	0.57	4.50
Stack 3	3.21	25.4	14.35	114	5.72	45.4	0.33	2.63	0.33	2.63	0.17	1.35	0.57	4.50	0.57	4.50
DEMOEXH (01-70) <sup>a</sup>	0.75	5.96	0.50	3.96	0.50	3.96	1.13E-03	8.94E-03	1.13E-03	8.94E-03	4.69E-04	3.72E-03	0.01	0.11	0.01	0.11
DEMOfUG	-	-	-	-	-	-	-	-	-	-	-	-	0.092	0.73	0.009	0.074

**Emission Rates for Annual Modeling**

Source ID	Annual NO <sub>2</sub>		Annual PM <sub>10</sub>		Annual PM <sub>2.5</sub>	
	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)
Stack 1	0.94	7.43	0.48	3.78	0.48	3.78
Stack 2	0.94	7.43	0.48	3.78	0.48	3.78
Stack 3	0.94	7.43	0.48	3.78	0.48	3.78
DEMOEXH (01-70) <sup>a</sup>	0.20	1.60	0.009	0.072	0.008	0.067
DEMOfUG	-	-	0.049	0.39	0.005	0.040

<sup>a</sup> Emission rates for exhaust point sources (DEMOEXH) are presented as the sum total for all sources in the group.

Redondo Beach Energy Project  
Attachment DR9-1 Table 5  
Modeling Results  
December 2013

Source	Year	NO <sub>2</sub> (µg/m <sup>3</sup> ) <sup>a</sup>			CO (µg/m <sup>3</sup> )		SO <sub>2</sub> (µg/m <sup>3</sup> )			PM <sub>10</sub> (µg/m <sup>3</sup> )		PM <sub>2.5</sub> (µg/m <sup>3</sup> )	
		1-hour	Federal 1-hour <sup>b</sup>	Annual	1-hour	8-hour	1-hour	3-hour	24-hour	24-hour	Annual	24-hour	Annual
ALL	2005	64.8	162	3.37	179	56.6	2.00	1.23	0.29	23.1	5.01	3.33	0.72
DEMO		63.0	63.0	3.31	52.4	34.8	0.12	0.10	0.022	22.8	4.96	2.84	0.67
RBEP		26.3	26.3	0.32	147	26.4	1.99	1.22	0.27	0.93	0.21	0.93	0.21
ALL	2006	65.0	161	3.49	185	69.7	1.87	1.27	0.50	22.7	5.44	3.83	0.78
DEMO		62.3	62.3	3.41	51.8	37.5	0.12	0.10	0.025	22.5	5.38	2.77	0.72
RBEP		27.6	27.6	0.29	154	38.0	1.84	1.19	0.48	1.73	0.19	1.73	0.19
ALL	2007	62.5	159	3.33	174	59.4	1.79	1.53	0.32	22.8	4.75	3.22	0.69
DEMO		62.1	62.1	3.27	51.7	36.2	0.12	0.11	0.023	22.7	4.71	2.79	0.64
RBEP		25.8	25.8	0.29	145	31.3	1.73	1.47	0.31	1.11	0.20	1.11	0.20
ALL	2008	66.1	161	3.32	192	52.6	3.35	1.26	0.20	23.3	4.65	2.86	0.67
DEMO		62.4	62.4	3.26	51.9	35.8	0.12	0.11	0.022	23.3	4.61	2.76	0.63
RBEP		32.1	32.1	0.30	179	21.2	3.35	1.25	0.19	0.76	0.20	0.76	0.20
ALL	2009	62.2	157	3.38	151	48.3	1.60	1.28	0.23	22.7	4.99	3.21	0.72
DEMO		62.2	62.2	3.31	51.7	34.4	0.12	0.10	0.022	22.7	4.94	2.72	0.67
RBEP		21.4	21.4	0.31	120	21.4	1.59	1.22	0.22	0.75	0.21	0.75	0.21

<sup>a</sup> The maximum 1-hour and annual NO<sub>2</sub> concentrations include ambient NO<sub>2</sub> ratios of 0.80 and 0.75, respectively.

<sup>b</sup> Total predicted concentration for the Federal 1-hour NO<sub>2</sub> standard (source ALL) is the maximum modeled concentration paired with the three-year average of 98th percentile seasonal hourly background concentrations, as provided by the SCAQMD.