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February 15, 2007

Mr. Bill Pfanner
Project Manager
Systems Assessment and Facility Siting Division
California Energy Commission
1516 9th Street, MS 15
Sacramento, CA 95814-5512

DOCKET	
06-AFC-3	
DATE	FEB 15 2007
RECD.	FEB 15 2007

Subject: LSP South Bay, LLC - South Bay Replacement Project AFC (06-AFC-3):
Docketing of February 14, 2007 Letter to the San Diego Air Pollution Control
District regarding the air dispersion remodeling results

Dear Mr. Pfanner:

On behalf of LSP South Bay, LLC, please find enclosed 12 copies and one original of copy of the February 14, 2007 letter from Sierra Research to the San Diego Air Pollution Control District regarding the results of the air dispersion remodeling requested by the APCD. For docketing purpose, also find attached the Proof of Service declaration.

We will coordinate this submittal with the Commission's Docket Unit.

LSP South Bay, LLC appreciates the continued opportunity to work with CEC staff on this important project.

Sincerely,

CH2M HILL

for

Robert C. Mason
Project Director

Attachments

cc: Docket Unit - California Energy Commission
Kevin Johnson, LSP South Bay, LLC



**sierra
research**

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February 14, 2007

Camqui Nguyen and
Ralph DeSiena
San Diego Air Pollution Control District
10124 Old Grove Road
San Diego, CA 92131-1649

Subject: Air Dispersion Remodeling Results, South Bay Replacement Project
Chula Vista, California

Dear Ms. Nguyen and Mr. DeSiena:

On behalf of LSP South Bay, LLC, this letter transmits the results of the updated air dispersion modeling requested by the District.

We have organized the responses to the District's requests for air dispersion modeling into the following two attachments:

- Attachment APCD 1: Revised Project Modeling Based on Chula Vista Meteorological Data; and
- Attachment APCD 2: New Modeling of SBRP Startup Emissions.

LSP South Bay, LLC's response to the air dispersion modeling requests from the California Energy Commission is also enclosed. That transmittal includes the following groups of responses to four sets of data requests:

- Data Requests 21-24: New Modeling of Combined SBRP Commissioning plus SBPP Normal Operation;
- Data Requests 25-27: New Modeling of Combined SBRP Operation plus Demolition of SBPP;
- Data Request 33: Cumulative Air Quality Impact Analysis Modeling for SBRP AFC; and
- Data Request 77: Revised Modeling of Public Health Risk Assessment.

February 14, 2007

We look forward to continuing to work with you. If you have any questions, please do not hesitate to call me at (916) 444-6666.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric G. Wether". The signature is written in a cursive style with a large initial "E".

Eric G. Wether

cc: Bill Pfanner, CEC
Kevin Johnson, LSP South Bay, LLC
Robert Mason, CH2M Hill

Attachments

Attachment APCD 1

Updated Project Modeling Based on Chula Vista Meteorological Data

South Bay Replacement Project

Introduction

This attachment contains the results of the June 30, 2006 South Bay Replacement Project (SBRP) Application for Certification (AFC) modeling analysis, updated using a newly available meteorological data set for Chula Vista, provided by the San Diego Air Pollution Control District (SDAPCD, or District).

Specific Contents

- AFC tables with tracking of changes resulting from remodeling
- Supplemental table demonstrating that PSD and Class I impact analyses continue to not be needed
- Compact disc containing the AERMOD input and output files

TABLE 8.1-27 (UPDATED JANUARY 2007 FOR REMODELING WITH CHULA VISTA METEOROLOGICAL DATA)
AIR QUALITY MODELING RESULTS

Pollutant	Averaging Time	Modeled Maximum Concentrations ($\mu\text{g}/\text{m}^3$)			
		Normal Operations AERMOD	Startup AERMOD	Inversion Breakup Fumigation SCREEN3	Shoreline Fumigation SCREEN3
NO ₂	1-hour	<u>248.0</u>	<u>130</u>	6.8	44.7
	Annual	<u>0.75</u>	a	c	c
SO ₂	1-hour	<u>11.5</u>	b	2.0	<u>13.0</u> ^d
	3-hour	<u>5.7</u>	b	1.6	<u>6.6</u> ^d
	24-hour	<u>2.14</u>	b	0.66	<u>0.93</u> ^d
	Annual	<u>0.10</u>	b	c	c
CO	1-hour	<u>36.9</u>	<u>2,714</u>	<u>4.2</u>	<u>27.2</u> ^e
	8-hour	<u>11.1</u>	<u>1,184</u>	<u>2.5</u>	<u>5.5</u> ^e
PM _{2.5} /PM ₁₀	24-hour	<u>4.3</u>	b	1.4	<u>2.0</u> ^d
	Annual	<u>0.66</u>	b	c	c

- a. Not applicable, because startup emissions are included in the modeling for annual average.
b. Not applicable, because emissions are not elevated above normal operation levels during startup.
c. Not applicable, because inversion breakup is a short-term phenomenon and as such is evaluated only for short-term averaging periods.
d. Decreased from June 30, 2006 submittal because of small upward correction in exhaust flow rate.
e. Decreased from June 30, 2006 submittal because updated BACT CO level decreased from 4 to 2 ppmc.

Note: The underlined numbers are updated values.

TABLE 8.1-28 (UPDATED JANUARY 2007 FOR REMODELING WITH CHULA VISTA METEOROLOGICAL DATA)

MODELED IMPACTS DURING COMMISSIONING

Pollutant/Averaging Period	Modeled Concentration, $\mu\text{g}/\text{m}^3$
NO ₂ - 1-hour	<u>189</u>
CO - 1-hour	<u>2,714</u>
CO - 8-hour	<u>1,266</u>

Note: The underlined numbers are updated values.

**TABLE 8.1-29 (UPDATED JANUARY 2007 FOR REMODELING WITH CHULA VISTA METEOROLOGICAL DATA)
MAXIMUM BACKGROUND CONCENTRATIONS, CHULA VISTA, 2003-2005 ($\mu\text{g}/\text{m}^3$)**

Pollutant	Averaging Time	2003	2004	2005
NO ₂	1-hour	192.0^a	135.5	133.6
	Annual	33.9	30.1	30.1
SO ₂	1-hour	78.6	110.0	41.9
	3-hour	55.0	55.0	23.6
	24-hour	28.8	41.9	13.1
	Annual	10.5	7.9	7.9
CO	1-hour	8,625	4,875	3,500
	8-hour	3,778	2,778	2,333
PM ₁₀	24-hour	78	45	52
	Annual	27.6	26.5	27
	24-hour	39.2^{b,c}	30.7	30.2
PM _{2.5}	Annual	14.4	12.2	11.8
	<u>National 3-Year Average^d</u>		<u>14</u>	<u>13</u>

Source: California Air Quality Data, California Air Resources Board website; EPA AIRData website. Reported values have been rounded to the nearest tenth of a $\mu\text{g}/\text{m}^3$ except for PM₁₀ which were already rounded to the nearest integer.

Notes:

- a. Bolded values are the highest during the three years and are used to represent background concentrations.
- b. 24-hour average PM_{2.5} concentrations shown are 98th percentile values rather than highest values because compliance with the ambient air quality standards is based on 98th percentile readings.
- c. As discussed in Section 8.1.3.6, Table 8.1-7, a concentration of 239 $\mu\text{g}/\text{m}^3$ was recorded at the Chula Vista monitoring station during the firestorms of October 2003. This value is considered anomalous, and the District's reported value of 39.2 $\mu\text{g}/\text{m}^3$ is used to represent the background 24-hour concentration of PM_{2.5}.
- d. To attain the annual PM_{2.5} NAAQS, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15.0 $\mu\text{g}/\text{m}^3$.

Note: The underlined numbers are updated values.

TABLE 8.1-30 (UPDATED JANUARY 2007 FOR REMODELING WITH CHULA VISTA METEOROLOGICAL DATA)
 MODELED MAXIMUM IMPACTS

Pollutant	Averaging Time	Maximum Facility Impact ($\mu\text{g}/\text{m}^3$)	Background ^a ($\mu\text{g}/\text{m}^3$)	Total Impact ($\mu\text{g}/\text{m}^3$)	State Standard ($\mu\text{g}/\text{m}^3$)	Federal Standard ($\mu\text{g}/\text{m}^3$)
NO ₂	1-hour ^b	<u>248</u>	192.0	<u>440</u>	470	-
	Annual	<u>0.75</u>	33.9	<u>35</u>	-	100
SO ₂	1-hour	<u>11.5</u>	110.0	<u>122</u>	650	-
	3-hour	<u>5.7</u>	55.0	<u>61</u>	-	1300
	24-hour	<u>2.2</u>	41.9	<u>44</u>	109	365
	Annual	<u>0.11</u>	10.5	<u>10.6</u>	-	80
CO	1-hour	<u>2,714</u>	8,625	<u>11,339</u>	23,000	40,000
	8-hour	<u>1,184</u>	3,778	<u>4,962</u>	10,000	10,000
PM ₁₀	24-hour	<u>4.3</u>	78	<u>82</u>	50	150
	Annual	<u>0.66</u>	27.6	<u>28</u>	20	-
PM _{2.5}	24-hour	<u>4.3</u>	39.2	<u>44</u>	--	35
	Annual	<u>0.66</u>	<u>14</u>	<u>14.7</u>	12	15

- a. Background monitoring data includes the contribution, if any, from the South Bay Power Plant.
- b. Maximum one-hour NO₂ impact shown occurs only during simultaneous operation of two turbines along with the fire pump engine. Maximum impact during routine turbine operation will be approximately 23 $\mu\text{g}/\text{m}^3$.

Note: The underlined numbers are updated values.

TABLE 8.1-31 (UPDATED JANUARY 2007 FOR REMODELING WITH CHULA VISTA METEOROLOGICAL DATA)
COMPARISON OF MAXIMUM MODELED IMPACTS AND PSD SIGNIFICANT IMPACT LEVELS

Pollutant	Averaging Time	Significant Impact Level, $\mu\text{g}/\text{m}^3$	Maximum Modeled Impact for SBRP, $\mu\text{g}/\text{m}^3$	Exceed Significant Impact Level?
NO ₂	Annual	1	<u>0.75</u>	No
SO ₂	3-hour	25	<u>5.7</u>	No
	24-Hour	5	<u>2.2</u>	No
	Annual	1	<u>0.11</u>	No
CO	1-Hour	2000	<u>2,714</u>	Yes
	8-Hour	500	<u>1,184</u>	Yes
PM ₁₀	24-Hour	5	<u>4.3</u>	No
	Annual	1	<u>0.66</u>	No

Note: The underlined numbers are updated values.

TABLE 8.1-32 (UPDATED JANUARY 2007 FOR REMODELING WITH CHULA VISTA METEOROLOGICAL DATA)
POTENTIAL HEALTH RISKS FROM THE OPERATION OF SBRP

	Significance Thresholds	SBRP	Significant?
Maximum Incremental Cancer Risk (MICR) at Point of Maximum Impact	10 in one million	<u>1.3</u> in one million	No
MICR to Maximally-Exposed Individual (Resident) (MEI)	10 in one million	<u>0.58</u> in one million	No
MICR to Maximally-Exposed Worker (Offsite) (MEW) ^a	10 in one million	<u>0.96</u> in one million	No
Acute Inhalation Health Hazard Index	1.0	<u>0.15</u>	No
Chronic Inhalation Health Hazard Index	1.0	<u>0.041</u>	No

a. The worker is assumed to be exposed at the work location 8 hours per day, instead of 24, 245 days per year, instead of 365, and for 40 years, instead of 70.

Note: The underlined numbers are updated values.

Table 8.1F-4 (UPDATED JANUARY 2007 FOR REMODELING WITH CHULA VISTA METEOROLOGICAL DATA)
Modeled Maximum Onsite Construction Impacts

Pollutant	Averaging Time	Maximum			State Standard ($\mu\text{g}/\text{m}^3$)	Federal Standard ($\mu\text{g}/\text{m}^3$)
		Impacts ($\mu\text{g}/\text{m}^3$)	Background ^a ($\mu\text{g}/\text{m}^3$)	Total Impact ($\mu\text{g}/\text{m}^3$)		
NO ₂ ^b	1-hour	<u>210</u>	192	<u>402</u>	470	--
	Annual	<u>43.9</u>	33.9	<u>78</u>	--	100
SO ₂	1-hour	<u>1.4</u>	110	<u>111</u>	650	--
	3-hour	<u>0.8</u>	55.0	<u>56</u>	--	1300
	24-hour	<u>0.2</u>	41.9	<u>42</u>	109	365
	Annual	<u>0.06</u>	10.5	<u>11</u>	--	80
CO	1-hour	<u>2,281</u>	8,625	<u>10,906</u>	23,000	40,000
	8-hour	<u>884</u>	3,778	<u>4,662</u>	10,000	10,000
PM ₁₀ ^c	24-hour	<u>36.2</u>	78	<u>114</u>	50	150
	Annual	<u>8.4</u>	27.6	<u>36</u>	20	50
PM _{2.5} ^c	24-hour	<u>13.1</u>	39.2	<u>52</u>	--	65
	Annual	<u>3.2</u>	14.4	<u>18</u>	12	15

Notes:

- Background monitoring data includes the contribution, if any, from the South Bay Power Plant.
- Ozone limiting method applied for 1-hour average, using 1990 O₃ data. ARM applied for annual average, using national default 0.75 ratio.
- PM₁₀ and PM_{2.5} impacts shown are from fugitive dust as well as combustion sources. 24-hour average PM_{2.5} < PM₁₀ impact from combustion sources only is 5.0 $\mu\text{g}/\text{m}^3$; annual average impact from combustion sources is 1.4 $\mu\text{g}/\text{m}^3$.

Note: The underlined numbers are updated values.

The following text from AFC Appendix 8.1F is revised to describe the health risk of the construction Diesel exhaust.

F-5.4 Health Risk of Diesel Exhaust

The combustion portion of annual PM₁₀ emissions from Table 8.1F-3 above was modeled separately to determine the annual average Diesel PM₁₀ exhaust concentration. This was used with HARP-derived risk values for Diesel exhaust particulate¹ for a 70-year lifetime to determine the potential carcinogenic risk from Diesel exhaust during construction. The exposure was adjusted by a factor of 28/840, or 0.0333, to adjust a 70-year (840 month) lifetime to the 28-month construction exposure period.

The maximum modeled annual average concentration of Diesel exhaust PM₁₀ at any location is 1.4 $\mu\text{g}/\text{m}^3$. The risk values obtained from HARP range from 4.0×10^{-4} (average point estimate value) to 5.8×10^{-4} (derived OEHHA and high end risk estimates). Using the range of risk values and adjustment factors described above, the carcinogenic risk due to exposure to Diesel exhaust during construction activities is expected to be between approximately 12 and 17 in one million. These risk estimates are conservatively overstated, in that not all of the demolition equipment modeled is expected to be operating at the same time for extended periods.

It is also important to note that these impacts are highly localized near the project site. As shown in the attached annual average Diesel combustion PM₁₀ isopleth diagram

¹ See Appendix 8.1E in the June 30, 2006 AFC for a discussion of the use of the HARP model to derive cancer risk values.

(Figure 8.1F-3), the area in which the risk may exceed 1 in one million (Diesel PM₁₀ impact greater than or equal to 0.063 µg/m³) barely extends beyond the facility fence line. This analysis remains conservative because, as discussed above, the modeled PM₁₀ concentrations from construction operations are overpredicted by the ISCST3 model.

Rationale for Adjusting Potential Health Risk of Construction Diesel Exhaust by the Duration of Construction

The original and updated screening health risk assessments for the proposed project have been prepared in accordance with the AB 2588 “Hot Spots” Program Guidance. As indicated on ARB’s AB 2588 Air Toxic’s “Hot Spots” program website (<http://www.arb.ca.gov/ab2588/ab2588.htm>), under the Air Toxics “Hot Spots” Information and Assessment Act, “...stationary sources are required to report the types and quantities of certain substances their facilities routinely release into the air.” The Act specifically applies (§44320) to “...(a) any facility which manufactures, formulates, uses or releases any of the substances listed pursuant to Section 44321...” “Facility” is defined as (§44304) every structure, appurtenance, installation and improvement on land...” Construction activities are not stationary sources and are not facilities under this definition, and hence, the “Hot Spots” guidance is not a regulatory requirement for the assessment of health risks from construction activities.

The assessment of potential health risks of Diesel particulate matter (DPM) from construction activities for the SBRP and other CEC projects is undertaken as part of the general CEQA requirement to assess reasonably foreseeable impacts and not as part of the Hot Spots program. While these assessments generally follow OEHHA guidance and use standard OEHHA risk assessment methodologies, they are not bound by these methodologies as a matter of regulation.

Standard HRA methodology, as indicated by OEHHA guidance, would not need adjustment if we were to assume that construction, like “permitted” operation, could potentially last the same 70 years as the theoretical lifetime of a resident and the “permitted lifetime” of the source. However, project construction activities and resulting emissions of potentially carcinogenic compounds are temporary projects that last a short time (e.g., 28 months for the construction of the SBRP and 27 months for demolition of the SBPP and SDG&E switchyard).

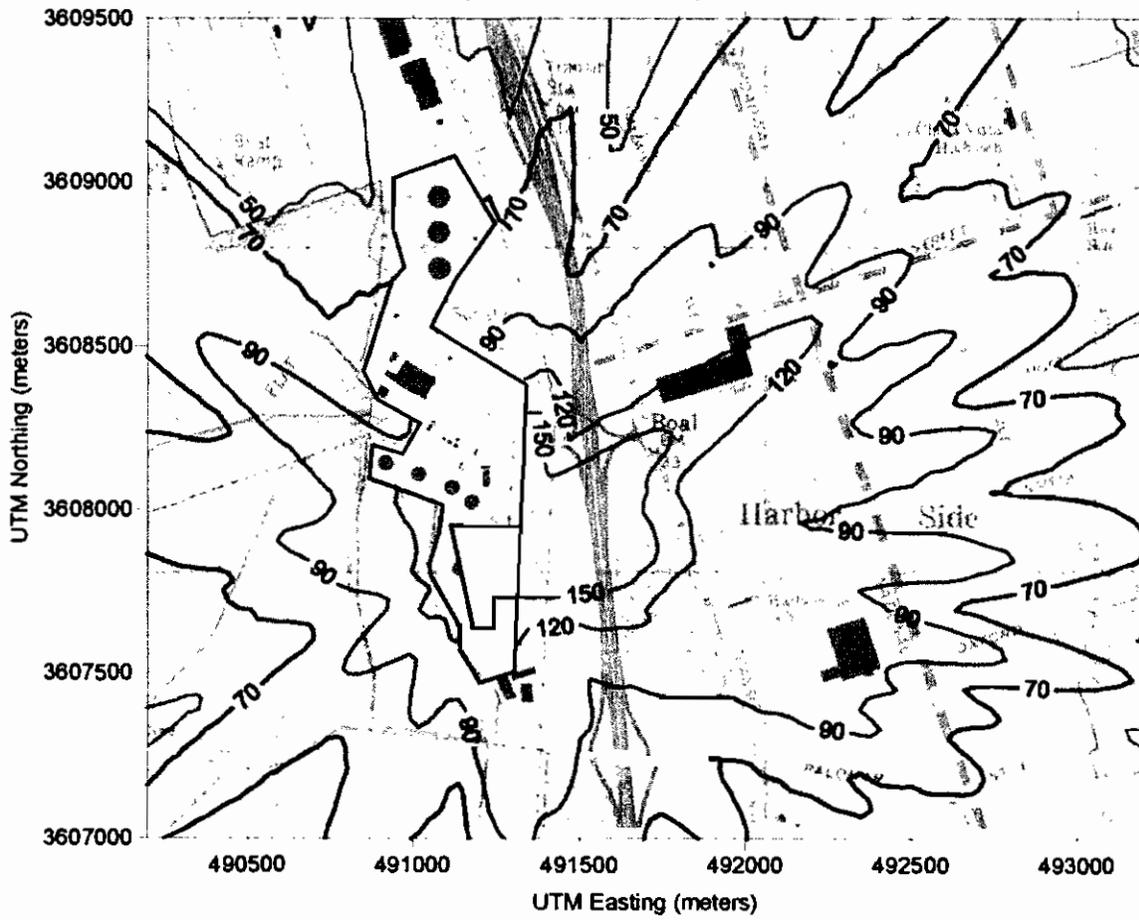
When potential cancer risk to workers is evaluated, OEHHA guidance and HARP software coding explicitly reduce offsite worker exposure by the factor of 40/70 to account for the fact that the worker period of exposure in the vicinity of the emitting source is set at 40 years while the underlying long-term health effects of cancer risk and non-cancer chronic health hazard index are computed for a 70-year resident’s lifetime. Similarly, OEHHA guidance allows, and HARP software implements, a correction factor of 49/52 for the number of weeks in a “worker” year, 5/7 for the number of “worker” days in a week, and 8/24 for the number of “worker” hours in a day, that the worker may be present when a source operates all the time for its indefinite lifetime. In this way, the potential risk from a source is adjusted to reflect the amount of time the receptor is actually exposed to the emissions from the source.

Instead of adjusting long-term risks for the coincidence of timing that a worker is at the workplace and exposed to the source’s emissions, construction health risk assessment requires the analogous adjustment for the period of time that a resident is exposed to the construction emissions. For example, if the construction period is 28 months (2.33 years), the adjustment of the long-term risks needs to be 2.33/70 for a resident. Without adjustment for the construction period, the long-term health risks are inappropriately computed for a “70-year” construction period.

This approach of adjusting 70-year modeled risks to reflect the actual construction period for this project is consistent with the assessment of cancer risk due to exposure to Diesel particulate matter from construction activities for many similar projects over the past eight years, and neither the CEC, the ARB nor the District in which each of these projects was to be located has previously objected to this approach. We are not aware of any recent change to OEHHA guidance that would affect the acceptability of this approach.

Figure 8.1F-1

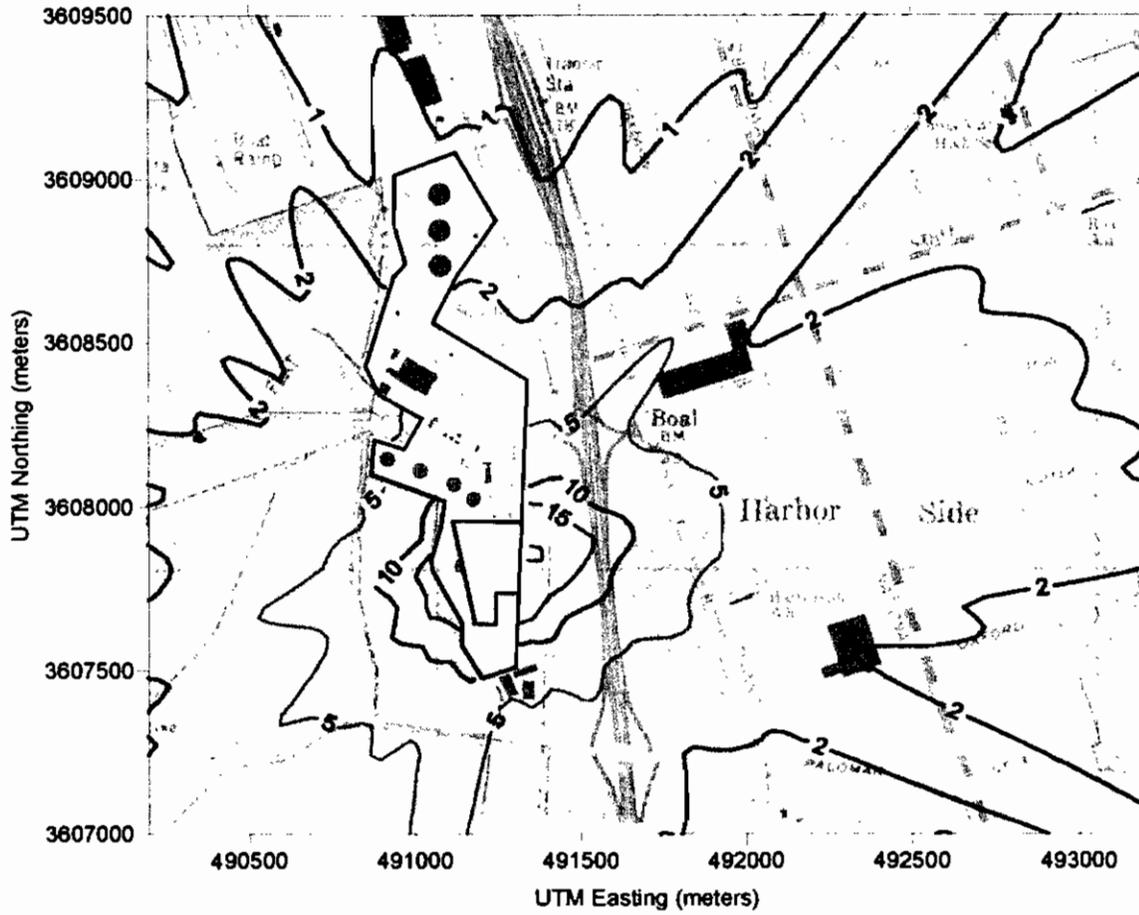
Maximum One-Hour Average NO₂ Impacts During Construction Activities
(Ozone-Limited)



Note: Concentrations are shown in $\mu\text{g}/\text{m}^3$.

Figure 8.1F-2

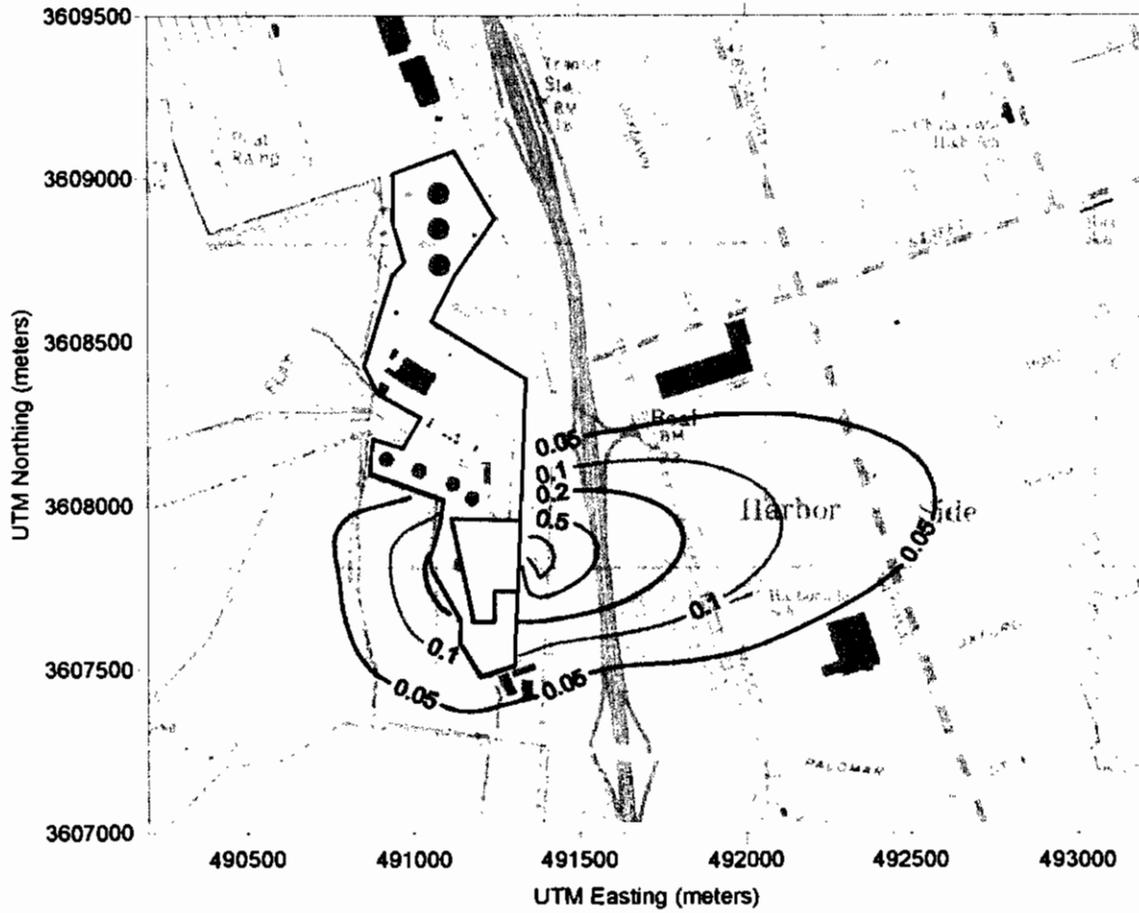
Maximum 24-Hour Average PM10 Impacts During Construction Activities, All Sources



Note: Concentrations are shown in $\mu\text{g}/\text{m}^3$.

Figure 8.1F-3

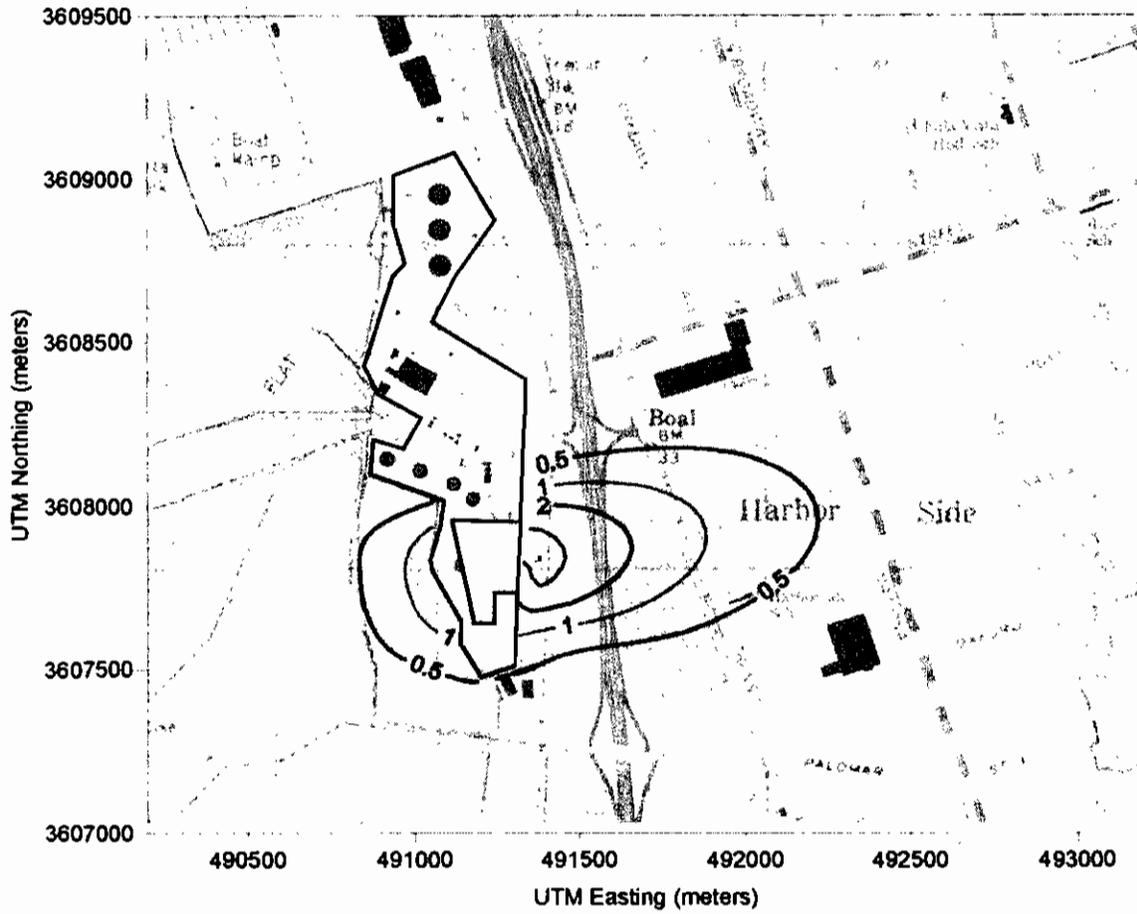
Maximum Annual Average PM10/PM2.5 Impacts During Construction Activities, Combustion Sources



Note: Concentrations are shown in $\mu\text{g}/\text{m}^3$.

Figure 8.1F-4

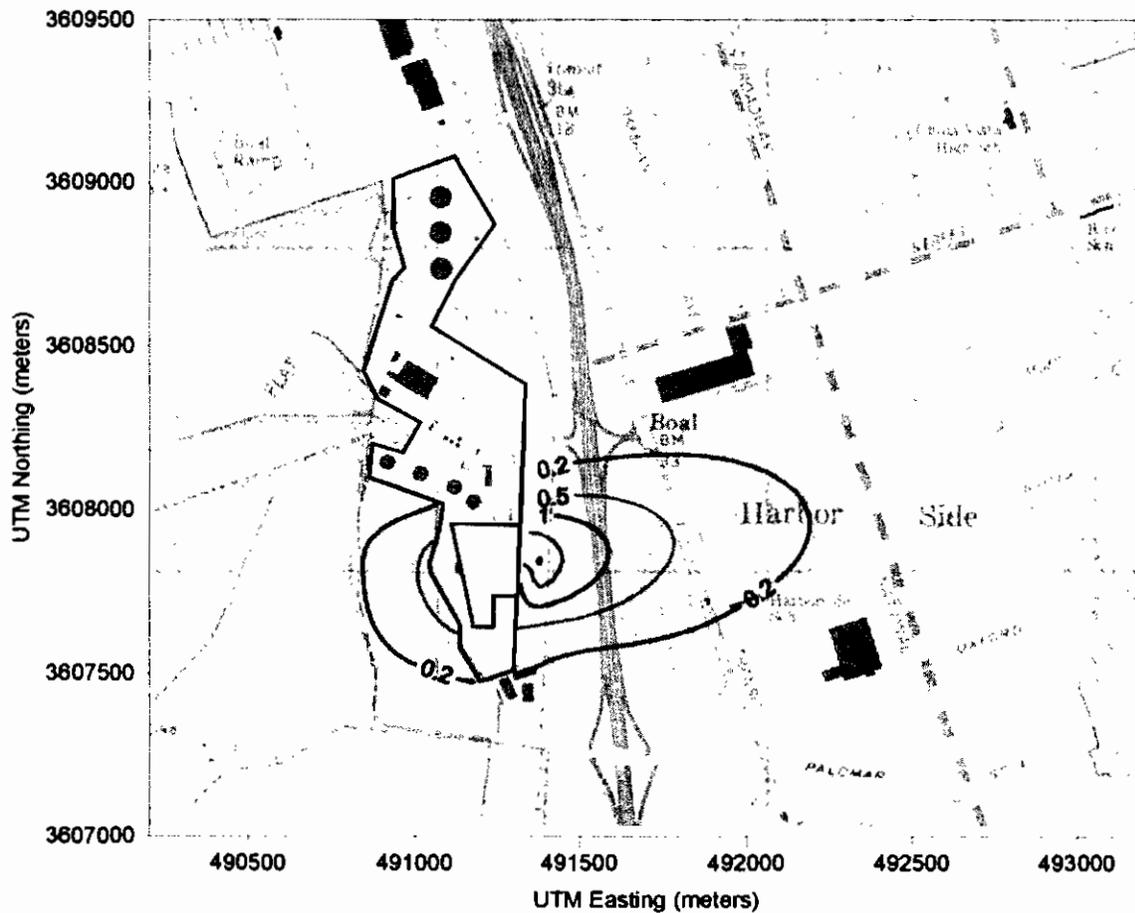
Maximum Annual Average PM10 Impacts During Construction Activities,
All Sources



Note: Concentrations are shown in $\mu\text{g}/\text{m}^3$.

Figure 8.1F-5

Maximum Annual Average PM2.5 Impacts During Construction Activities,
All Sources



Note: Concentrations are shown in $\mu\text{g}/\text{m}^3$.

The following supplemental table has been developed to show that Prevention of Significant Deterioration (PSD) and Class I impact analyses continue to not be needed for the project.

PSD Threshold Evaluation Table

POLLUTANT	AVERAGING PERIOD	MAXIMUM MODELED CONCENTRATION	CALIFORNIA AAQS	NATIONAL AAQS	SDAPCD CLASS II AREA SIGNIFICANT IMPACT LEVEL (I)	FEDERAL CLASS II PSD INCREMENT	MAXIMUM CONCENTRATION MODELED AT CLASS I AREA (2)	SDAPCD SIGNIFICANT IMPACT LEVEL (3) (24-HR MAX)	FEDERAL CLASS I PSD INCREMENT	FEDERAL SIGNIFICANT IMPACT LEVELS	PSD MONITORING THRESHOLD CONCENTRATIONS	EXCEEDANCE?
Nitrogen Dioxide	24 Hour (4)	99(5)	--	--	--	--	0.5 (6) (Startup maximum)	1.0	--	--	--	NO
	Annual (AAM) (7)	0.75	--	100	1.0	25 (8)	0.007	--	2.5	1	14	NO
PM ₁₀	24 Hour	4.3	50	150	5.0	30 (9)	0.0064	1.0	8	5	10	NO
	Annual (AAM) (7)	0.66	20	--	1.0	17 (8)	0.0044	--	4	1	--	NO
Sulfur Dioxide	3 Hour (Secondary NAAQS)	5.7	--	1,300	--	512 (9)	0.024	--	25	25	--	NO
	24 Hour	2.2	105	365	5.0	91 (9)	0.0032	1.0	5	5	13	NO
	Annual (AAM) (7)	0.11	--	80	1.0	20 (8)	0.0007	--	2	1	--	NO
Carbon Monoxide	1 Hour	2.714	23,000	40,000	2000.0	--	0.1	--	--	2,000	--	NO
	8 Hour	1,184	10,000	10,000	500.0	--	0.02	--	--	500	575	NO
	24 Hour (4)	677 (10)	--	--	--	--	0.02 (11)	1.0	--	--	--	NO
O ₃	1-Hour	48 (VOC)(12)	180	235	--	--	--	--	--	--	10 (VOCs)	NO PSD monitoring not required
H ₂ S	1 Hour	--	42	--	--	--	--	--	--	--	0.2	NO PSD monitoring not required
Pb	Calendar Quarter	--	1.5 (30-day average)	1.5	--	--	--	--	--	--	0.1	NO PSD monitoring not required
Be	24-Hour	--	--	--	--	--	--	--	--	--	0.001	NO for natural gas fuel
Ug	24-Hour	--	--	--	--	--	--	--	--	--	0.25	NO for natural gas fuel
Vinyl Chloride	24-Hour	--	26	--	--	--	--	--	--	--	15	NO for natural gas fuel
Fl	24-Hour	--	--	--	--	--	--	--	--	--	0.25	NO for natural gas fuel

Notes:

- SDAPCD Regulation II, Rule 20.1, Table 20.1-13.
- The nearest Class I area is Agua Tibia Wilderness Area, 42 miles north-northeast of the Project.
- SDAPCD Regulation II, Rule 20.1, Table 20.1-12.
- NO_x and CO do not have 24-hour standards, but SDAPCD Table 20.1-12 sets the significant impact thresholds on the basis of a 24-hour maximum concentration.
- Estimated by multiplying the maximum 1-hour average concentration by a factor of 0.4 (USEPA, 1992). USEPA. Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised. EPA-454/R-92-019, 1992.
- Ibid.
- Annual arithmetic mean
- Not to be exceeded
- Not to be exceeded more than once per year
- Estimated by multiplying the maximum 8-hour concentration by the ratio of the 1-hr average to 24-hr average adjustment factor of 0.4 to the 1-hr average to 8-hr average adjustment factor of 0.7 (USEPA, 1992).
- Conservatively assumed equal to the 8-hr modeling result.
- VOC not directly modeled. Maximum concentration proportioned from maximum CO 1-hour concentration by ratio of startup emission rates.

Attachment APCD 2 New Modeling of SBRP Startup Emissions

Introduction

This attachment contains the results of new modeling for the South Bay Replacement Project (SBRP) startup emissions using a newly available meteorological data set for Chula Vista, as requested by the San Diego Air Pollution Control District (SDAPCD, or District).

One of the recommendations was to remodel startups at both 10% and 20% load. Because startups are inherently transient operations with a great deal of variability, analysis at both 10% and 20% load present technical challenges, as described below. Nonetheless, the Applicant is providing the enclosed analysis in response to the District's request for emission calculations and modeling at 10% load condition. Applicant has focused on the 10% load analysis alone for the following reasons:

- 10% load produces higher potential maximum air quality impacts than a 20% load due to reduced dispersion from the lower stack exit velocity at 10% load
- 20% load is not reflective of operating conditions because the first turbine to begin a cold start may remain at 10% load for several hours while it spends only approximately 40 minutes at 20% load before the second turbine quickly ramps up through both load levels to base load

Another recommendation by the District was to assume an initial 25% nitrogen dioxide (NO₂) concentration in the exhaust exiting the stack during normal operating conditions, and assume a 40% initial NO₂ concentration for startup and commissioning operations. During normal operation, it is possible for the selective catalytic reduction (SCR) NO_x control system to preferentially reduce nitric oxide (NO) to nitrogen in comparison to the reduction of NO₂, and hence, increase the literature value¹ for the NO₂ concentration of 10% to 25%. In contrast, though, the recommendation to assume 40% initial NO₂ concentration for startup and commissioning operations does not appear to be consistent with the fact that combustion during these modes is in diffusion mode rather than lean pre-mix mode, and the SCR is not yet fully operational. These circumstances do not lead to preferential reduction of NO, and hence, the default 10% initial NO₂ concentration is more appropriate during startup and commissioning.

¹ Cole, Henry S. and John E. Summerhays (1979). *The Application of reactive plume models to the estimation of short-term NO₂ concentration*, presentation at the Annual Meeting of the Air Pollution Control Association, Houston, Texas, June 1978, and *A review of techniques available for estimating short-term NO₂ concentrations*, Journal of the Air Pollution Control Association, Volume 29, Number 8, pages 812-817, August 1979.

Specific Contents

- Supplemental Table 2 containing the remodeled startup results
- Compact disc containing the AERMOD input and output files

SUPPLEMENTAL TABLE 2

NEW STARTUP^(a) AIR QUALITY IMPACT ANALYSIS MODELING RESULTS BASED ON 10% LOAD EMISSIONS AND DISPERSION CHARACTERISTICS

Pollutant	Averaging Time	Maximum Facility Impact ($\mu\text{g}/\text{m}^3$)	Background ($\mu\text{g}/\text{m}^3$)	Total Impact ($\mu\text{g}/\text{m}^3$)	State Standard ($\mu\text{g}/\text{m}^3$)	Federal Standard ($\mu\text{g}/\text{m}^3$)
NO ₂	1-hour	155.0 ^(b)	192.0	347	470	-
	Annual	NR	NR	NR	-	NR
SO ₂	1-hour	4.5 ^(b)	110.0	114.5	650	-
	3-hour	2.5 ^(b)	55.0	57.5	-	1300
	24-hour	NR	NR	NR	NR	NR
	Annual	NR	NR	NR	-	NR
CO	1-hour	3,466	8,625	12,091	23,000	40,000
	8-hour	NR	NR	NR	NR	NR
PM ₁₀	24-hour Annual	Not relevant to a startup period that does not exceed 4 hours.				
PM _{2.5}	24-hour Annual					

NR = Not relevant

a. 10% load

b. Reduced impacts compared to June 30, 2006 AFC Table 8.1-27 are due to lower fuel use and emission rate at 10% load..

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE
STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION
FOR THE SOUTH BAY
REPLACEMENT PROJECT

Docket No. 06-AFC-3
PROOF OF SERVICE
(Revised 2/8/07)

INSTRUCTIONS: All parties shall 1) send an original signed document plus 12 copies OR 2) mail one original signed copy AND e-mail the document to the web address below, AND 3) all parties shall also send a printed OR electronic copy of the documents that shall include a proof of service declaration to each of the individuals on the proof of service:

DOCKET UNIT

Send the original signed document plus the required 12 copies to the address below.

CALIFORNIA ENERGY COMMISSION
DOCKET UNIT, MS-4
Attn: Docket No. 06-AFC-3
1516 Ninth Street
Sacramento, CA 95814-5512

* * * *

In addition to the documents sent to the Commission Docket Unit, also send individual copies of any documents to:

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DECLARATION OF SERVICE

I, Jeannette Harris, declare that on February 15, 2007, I deposited copies of the attached February 14, 2007 Letter to the San Diego Air Pollution Control District re: the Air Dispersion Modeling Results, in the United States mail at Sacramento, CA with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

OR

Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

I declare under penalty of perjury that the foregoing is true and correct.


[signature]