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ATTORNEYS AT LAW

980 Ninth Street, Suite 1900
Sacramento, California 95814
main 916.447.0700
fax 916.447.4781
www.stoel.com

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KIMBERLY HELLWIG
Direct (916) 319-4742
kjhellwig@stoel.com

VIA EMAIL AND HAND DELIVERY

Mr. Steve Munro
Compliance Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Re: El Segundo Power Redevelopment Project (00-AFC-14C)
1-Hour NO_2 Modeling Analysis

Dear Mr. Munro:

On behalf of El Segundo Power II LLC, please find enclosed herewith the original and 14 copies of the ***Oversized Equipment Beach Delivery Activities: 1-Hr NO_2 Modeling Analysis*** conducted for the El Segundo Power Redevelopment Project. In addition to the report, please find nine (9) discs containing the air quality modeling (a copy of the analysis and one disc will also be delivered to Mr. Joe Loyer).

Should you have any questions, please do not hesitate to contact me at the number above.

Very truly yours,

Stoel Rives LLP

Kimberly Hellwig
Paralegal

KJH:kjh
Enclosures
cc: Mr. George Piantka, El Segundo Power II LLC (w/out disc)
Mr. Tim Hemig, El Segundo Power II LLC (w/out disc)
Mr. Joe Loyer, California Energy Commission
Mr. John A. McKinsey, Stoel Rives LLP

Oversized Equipment Beach Delivery Activities
1-Hr NO_2 Modeling Analysis
El Segundo Redevelopment Project (00-AFC-14C)

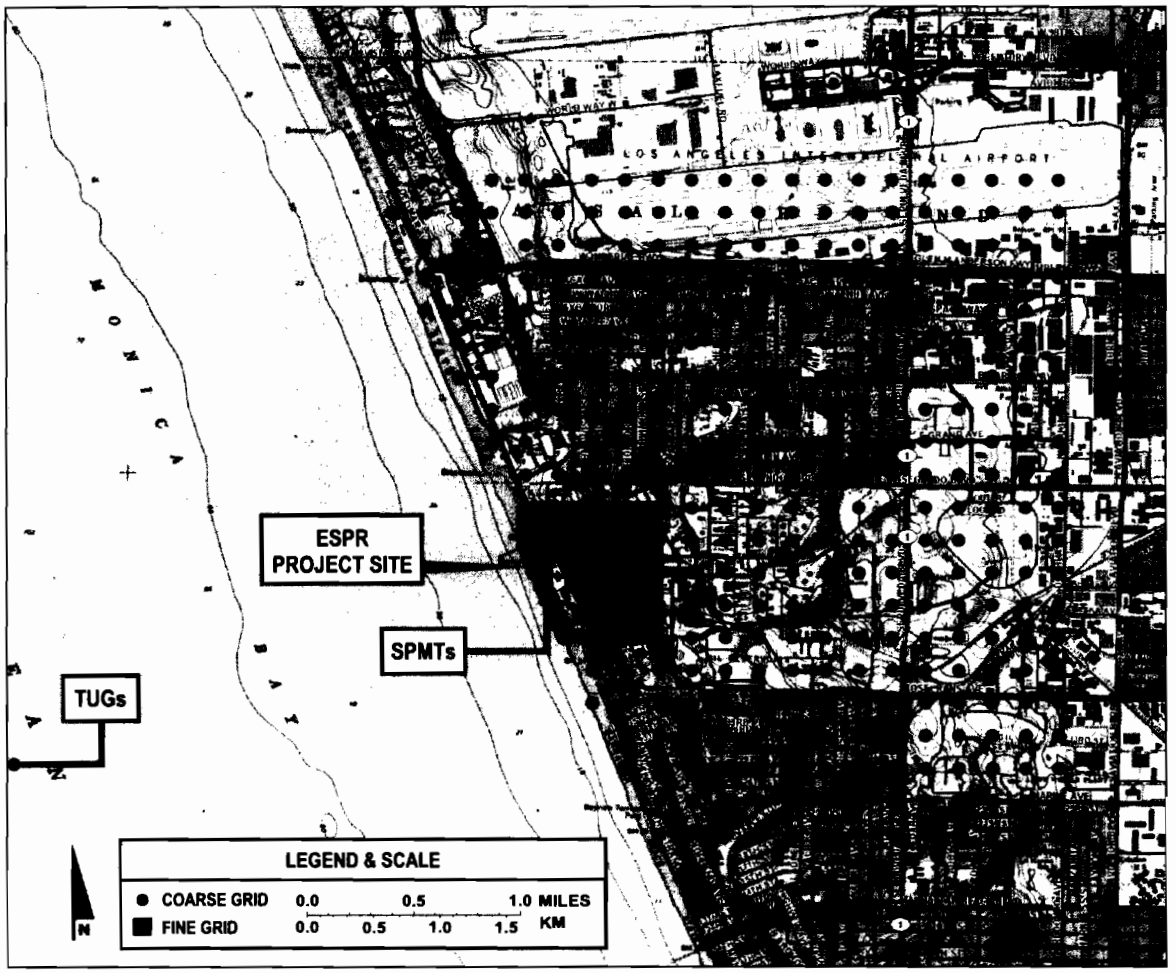
In response to a concern raised by the CEC air quality staff regarding the daily net NOx emission increase associated with the oversized equipment beach delivery activities discussed in the June 18, 2007 Petition to Amend the final commissioning decision for the El Segundo Redevelopment Project (Table 3.1-11, June 18, 2007 Petition to Amend), a 1-hr average NO_2 modeling analysis was performed for these activities. As shown on Tables A.2.2 and A.2.3 of the June 2007 Petition to Amend, nearly all of the NOx emissions for the beach delivery activities are associated with operation of the tug boats while traveling to and from the project site and operation of the self-propelled modular transporters (SPMTs) that will be used to transport the oversized equipment from the beach landing site to the project site. Consequently, the modeling analysis included the NOx emissions from these two activities. For the modeling analysis, it was assumed that the tugs were at the end of the delivery route to the beach and operating during the last hour of this trip. During this same hour, it was assumed that the SPMTs were traveling from the plant site to the beach landing site for loading activities. These activities were modeled in two different ways. One modeling analysis treated the tugs and SPMTs as two separate point sources, with each point source located at the center of the route traveled during the hour in question. As discussed above, for the tugs this would be the last hour in the travel route to the beach landing site. For the SPMTs, during this same hour it is assumed that the SPMTs are in route to the beach from the plant site. A second modeling analysis treated the tugs and SPMTs as volume sources that covered the corresponding route traveled by each during the hour in question.

Model Used

For both the point and volume source modeling, the EPA AERMOD model was used along with the ozone limiting method. Meteorological data collected at the Los Angeles Airport during 2004, hourly background ozone data collected at the West Los Angeles VA Hospital monitoring station during 2004, and background NO_2 data collected during 2004 at this same monitoring station were used for this analysis. The year 2004 was selected for this analysis because it is the most recent year with readily available meteorological data and it also represents the year with the highest maximum background 1-hr NO_2 levels during the past four years (2004 to 2007).

For the receptor grids used for the modeling, a coarse receptor grid extending approximately 4 km in the east/west direction and approximately 5 km in the north/south direction with a 250-meter resolution was placed surrounding the project site. Also, a fence line grid with 25-meter resolution was placed along the facility fence-line in a single tier of receptors. In addition, a refined receptor grid extending approximately 1 by 1 km with 25 meter spacing was placed in the area where the modeled maxima is located. The location of the receptor grids and point source locations for the tugs and SPMTs are shown in Figure 1.

Figure 1
Receptor Grids for Beach Delivery Modeling Analysis



NOx Emissions/Stack Parameters

As discussed above, the daily NOx emission rates for the tugs and SPMTs shown in the June 2007 Petition to Amend were used for the beach delivery modeling analysis (see Tables A.2.2 and A.2.3 of Petition to Amend). The corresponding hourly NOx emission rates for the tugs during transport are 25.4 lbs/hr per tug, resulting in a total emission rate of 101.5 lbs/hr for the four tugs used during transport. A question also arose from the CEC staff regarding the NOx emission factor used for the tug NOx emissions. As shown in Table A.2.5 of the June 2007 Petition to Amend, the NOx emission factor for the tugs assumes the use of EPA Tier II certified Diesel engines. For the SPMTs, the hourly NOx emission rate is 8.5 lbs/hr based on the daily total of 170.2 lbs/day and 20 hours of operation per day. As with the tug engines, the SPMT NOx emission factor assumes the use of EPA Tier II engines.

The exhaust parameters used for the tugs were based on a similar modeling analysis performed for the proposed BHP Cabrillo LNG project. The exhaust parameters used

for the SPMTs were based on a similar-size Diesel engine that will serve as a firepump engine for the proposed Humboldt Bay Repowering Project.

Modeling Results

As required recently by the CEC staff for a construction modeling analysis for the Carlsbad Energy Center Project (07-AFC-6), the modeling analysis of the proposed beach delivery examined the maximum modeled 1-hr average NO_2 impacts and added these impacts to the background ambient NO_2 levels for these specific hours and compared the total to the 1-hr state NO_2 standard. For the point source beach delivery modeling analysis, the top 100 modeled 1-hr NO_2 impacts were examined; these results are summarized in Table 1.

In addition, to ensure that there were no exceedances of the state 1-hr NO_2 standard during other hours during the year, the 100th highest modeled 1-hr average NO_2 impact was added to the highest measured background ambient NO_2 level during the year and compared to the 1-hr state NO_2 standard. The results of this modeling analysis are also shown in Table 1. As shown in the table, the maximum modeled impacts combined with ambient background levels are below the state 1-hr NO_2 standard.

A similar conclusion is expected for the modeling analysis using the volume source approach. With the volume source approach, the maximum 1-hr NO_2 impact is lower than the point source modeling approach (238.0 $\mu g/m^3$ versus 296.4 $\mu g/m^3$). However, the volume source AERMOD runs take much longer than the point source runs, so it was not possible to perform the numerous runs necessary for this top-down type of analysis. The detailed input and output files for the beach delivery modeling analysis are included in the attached compact disc.

Table 1
1-Hour Average NO_2 Beach Delivery Modeling Impacts
Point Source Modeling Runs
Top 100 Modeled Impacts

Rank	Modeled 1-hr NO_2 Impact ($\mu g/m^3$)	1-hr Average NO_2 Background ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	State 1-hour NO_2 Standard (ug/m^3)
Top 10 Impacts (of top 100 impacts)				
1	296.4	18.8	315.2	338
2	281.3	24.4	305.7	338
3	278.9	18.8*	297.7	338
4	274.7	18.8	293.5	338
5	262.9	16.9	279.8	338
6	258.0	24.5	282.5	338
7	235.7	16.9	252.6	338
8	235.2	16.9	252.1	338
9	234.1	16.9	251.0	338
10	233.9	15.1	249.0	338
Bottom 10 Impacts (of top 100 impacts)				
91	171.3	20.7	192.0	338
92	170.9	11.3	182.2	338
93	170.5	0.0	170.5	338
94	170.1	16.9	187.0	338
95	170.0	33.9	203.9	338
96	169.9	33.9	203.8	338
97	169.7	26.3	196.0	338
98	169.5	39.5	209.0	338
99	169.0	26.3	195.3	338
100	168.8	16.9	185.7	338
100^{th} Impact and Maximum Background Level				
100	168.8	161.5	330.3	338

Note:

* Since there are missing data for the background level for this hour, data filling was used to generate a background level.