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November 8, 2011

**VIA EMAIL**

Eric Solorio, Siting Project Manager  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814

<b>DOCKET</b>	
<b>11-AFC-1</b>	
DATE	NOV 08 2011
RECD.	NOV 08 2011

**Re: Pio Pico Energy Center Project (11-AFC-01)**  
**Air Quality Modeling Submitted to the San Diego Air Pollution Control District**

Dear Mr. Solorio:

On behalf of Applicant Pio Pico Energy Center, LLC, please find enclosed herein additional air quality modeling completed for the Pio Pico Energy Center Project. Applicant's consultant, Sierra Research, submitted the modeling to the San Diego Air Pollution Control District.

Very truly yours,



Melissa A. Foster

MAF:jmw

Enclosures

cc: See Proof of Service

October 24, 2011



**sierra  
research**

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Steven Moore  
Senior Air Pollution Control Engineer  
San Diego Air Pollution Control District  
10124 Old Grove Road  
San Diego, CA 92131-1649

Re: Modeling for Pio Pico Energy Center using CY 2008-2010 Data  
Application No. ADCP-2010-APP-001251

Dear Mr. Moore:

On behalf of Apex Power Group, LLC (Apex), Sierra Research is providing additional information regarding the application for the Pio Pico Energy Center (PPEC), to be located in Otay Mesa, California. This project is subject to Certification by the California Energy Commission.

### Modeling Results\_\_CY 2008\_2010 Data

The applicant has performed modeling to support a compliance demonstration based on CY2008-2010 data. This compliance demonstration was performed in order to demonstrate that the project will not cause or contribute to new exceedances of state or federal ambient air quality standards. The new modeling covers all pollutants and averaging times for which state or federal ambient air quality standards have been promulgated.

The attached document provides tables and text summarizing the new modeling and the results.

A CD containing electronic versions of all modeling files has also been provided.

Please do not hesitate to call me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to be "Steve Hill", written over the printed name "Steve Hill". The signature is stylized and cursive.

cc: Gary Chandler, PPEC  
David Jenkins, PPEC  
Maggie Fitzgerald, URS  
John McKinsey, Stoel Rives, LLC  
Eric Solorio, SDAPCD

Attachment

5.2.4 Environmental Consequences

5.2.4.14 Commissioning Impacts

**TABLE 5.2-26  
MODELED MAXIMUM IMPACTS DURING COMMISSIONING  
(2008-2010 METEOROLOGICAL DATA) (REVISED 10/19/11)**

<u>Pollutant</u>	<u>Averaging Period</u>	<u>Maximum Predicted Impact (Ng/m<sup>3</sup>)</u>	<u>Background Concentration (Ng/m<sup>3</sup>)</u>	<u>Total Concentrations (Ng/m<sup>3</sup>)</u>	<u>NAAQS (Ng/m<sup>3</sup>)</u>	<u>CAAQS (Ng/m<sup>3</sup>)</u>
NO2	1-hr	194	135	329	188	339
	Annual	--	30		NA	NA
SO2	1-hr	3	29	32	196	655
	3-hr	1	18	19	1300	
	24-hr	0	10	10	--	105
	Annual		5		NA	--
CO	1-hr	375	5	380	40,000	23,000
	8-hr	90	2	92	10,000	20,000
PM <sub>10</sub>	24-hr	2	58	60	150	50
	Annual		26.7		--	NA
PM <sub>2.5</sub>	24-hr	2.2	43.7	45.9	35	
	Annual		12.3		NA	NA

<sup>1</sup> The total concentration shown in this table is the sum of the maximum predicted impact and the maximum measured background concentration. Because the maximum impact will not occur at the same time as the maximum background concentration, the actual maximum combined impact will be lower.

Table 5.2-26 shows that commissioning emissions will not cause new exceedances of any state or federal air quality standards, with the exception of the federal 1-hour NO<sub>2</sub> standards. (Because commissioning is a temporary activity lasting a few weeks at most, the annual standards are not applicable. Commissioning emissions will count toward the limit on annual emissions for the first year of normal operations, so the analysis of annual impacts in Section 5.2.4.15 is applicable to commissioning.) The table shows that worst-case background concentrations of PM<sub>10</sub> are already above the state standard, although they are below the federal standard. The project's 24-hour PM<sub>10</sub> impacts are lower than the federal significance threshold of 5 gg/m<sup>3</sup> (see Table 5.2-11). The table indicates that commissioning activities may contribute to existing exceedances of the federal 24-hour average PM<sub>2.5</sub> standard; however, this standard is evaluated based on the three-year average of the 98<sup>th</sup> percentile concentration and commissioning emissions, as a short-term activity, are not likely to contribute significantly to an exceedance in fact.

Table 5.2.26 indicates that the sum of the worst-case commissioning NO<sub>2</sub> impacts and the worst-case ambient background concentration is greater than the federal 1-hour NO<sub>2</sub> standard. However, this does not mean that the project would result in a violation of that standard. This is because compliance with the federal standard is based on the 3-year average of the 98<sup>th</sup>

percentile of daily maximum 1-hour average concentrations. Because the federal one-hour NO<sub>2</sub> standard requires averaging the concentrations over three years, the NO<sub>2</sub> impacts during the single year of commissioning would not be likely to cause a new violation of the federal one-hour NO<sub>2</sub> standard.

The project's commissioning emissions will not result in potentially significant air quality impacts. Nevertheless, the emission offsets required for operating emissions will be provided before commissioning begins, further mitigating commissioning impacts.

**TABLE 5.2-27  
SUMMARY OF MODELING RESULTS  
(2008-2010 METEOROLOGICAL DATA) (REVISED 10/19/11)**

Pollutant	Averaging Period	Modeled Concentration (Ng/m <sup>3</sup> )		PSD Significant Impact Level - Spg/m <sup>3</sup>
		Normal Operation	Startup	
NO <sub>2</sub>	1-hr	34	133	7.51
	Annual	0.3		1.0
SO <sub>2</sub>	1-hr	8		7.8 <sup>1</sup>
	3-hr	3		25
	24-hr	1		5
	Annual	<0.1		1.0
CO	1-hr	34	268	2000
	8-hr	8	64	500
PM <sub>10</sub>	24-hr	2.2		5
	Annual	0.24		1
PM <sub>2.5</sub>	24-hr	2.2		1.2
	Annual	0.24		0.3

Notes:

<sup>1</sup> These are interim SILs and have not been formally adopted by EPA.

**TABLE 5.2-28**  
**SUMMARY OF RESULTS (MODELED MAXIMUM IMPACTS PLUS BACKGROUND)**  
**(2008-2010 METEOROLOGICAL DATA) (REVISED 10/19/11)**

Pollutant	Averaging Time	Maximum Predicted Impact (operating mode) (Ng/m <sup>3</sup> )	Background Concentration (pgim)	Total Concentration (Maximum Impact plus Background) (pgle)	3 year Average of 98th Percentile of Total Concentration (Ng/m <sup>3</sup> )	NAAQS (uglm <sup>3</sup> )	CAAQS (Ng/m <sup>3</sup> )
NO2	1-hr	133(startup)	135	268	138	188	339
	Annual	0.3 (normal)	30	30		100	57
SO2	1-hr	8 (normal)	29	37		196	655
	3-hr	3 (normal)	18	21		1300	
	24-hr	1 (normal)	10	11			105
	Annual	<0.1 (normal)	5	5		80	
CO	1-hr	268(shutdown)	5	273		40,000	23,000
	8-hr	64(shutdown)	2	66		10,000	20,000
Pgio	24-hr	2 (normal)	58	60		150	50
	Annual	0.2 (normal)	26.7	26.9			20
PM2.5	24-hr	2.2 (normal)	43.7		Not Available <sup>2</sup>	35	
	Annual	2.6 (normal) <sup>3</sup>	45.7 <sup>3</sup>		25.9 <sup>3</sup>	35	
		0.24 (normal)	12.3	12.6		15.0	<b>12</b>

<sup>1</sup> 40 CFR 51.165 (b)(2).

<sup>2</sup> 2008-2010 PM2.5 measurements are only taken every three days. Data substitution to fill missing data was not performed by District. 2006-2008 analysis is shown instead. Note that peak project impact and maximum background concentration are both lower for 2008-2010.

<sup>3</sup> Based on 2006-2008 data.

**TABLE 5.2-29**  
**SUMMARY OF RESULTS OF DEMONSTRATION OF COMPLIANCE WITH**  
**FEDERAL 1-HOUR NO2 AND 24-HOUR PM2.5 STANDARDS**  
**(2008-2010 METEOROLOGICAL DATA)(REVISED 10/19/11)**

Standard	Maximum Predicted Impact (Ng/m <sup>3</sup> )	Maximum Background Concentration (Ng/m <sup>3</sup> )	3 year Average of 98th Percentile of Total Concentration (pgIm <sup>3</sup> )	NAAQS (Ng/m <sup>3</sup> )
Federal 1-hour NO2	133 (startup)	135	138	188
Federal 24-hour PM2.5	2.2 (normal)	43.7	Not Available <sup>1</sup>	35
Federal 24-hour PM2.5	2.6 (normal) <sup>2</sup>	45.7 <sup>2</sup>	25.9 <sup>2</sup>	35

<sup>1</sup> 2008-2010 PM2.5 measurements are only taken every three days. Data substitution to fill missing data was not performed by District. 2006-2008 analysis is shown instead.

<sup>2</sup> Based on 2006-2008 data.

Demonstration of Compliance with District Regulation 20-3(d)(2)(i)

Regulation 20-3(d)(2)(i)(A) requires a demonstration that the project will not cause a violation of a state or national ambient air quality standard that does not already exceed the standard. Table 5.2-28 makes this demonstration for all of the applicable air quality standards (all standards except the state 24-hour PK<sup>o</sup> standard, the state annual PK() standard, and the state annual PM2.5 standard).

Regulation 20-3(d)(2)(i)(c) requires a demonstration that the project will not cause additional violations of a state ambient air quality standard. The project cannot cause new violations of the annual standard because the annual standard is already exceeded. No new violations are possible.

The demonstration that the project will not result in new violations of the 24-hour PM10 standard is presented in Table 5.2-30A. All ambient measurements at the Chula Vista monitoring station (CY 2008-2010) greater than 461. µg/m<sup>3</sup> are listed; the sum of the ambient measurement and the worst-case project impact is determined, and compared to the standard of 50 µg/m<sup>3</sup>. Additionally, the District has provided monitoring data for 2010 from a relatively new PM10 monitor located at the Donovan correctional facility. The sum of ambient measurements and the modeled maximum project impact for each day is also presented in Table 5.2-30A

**TABLE 5.2-30A  
DEMONSTRATION THAT PROJECT WILL NOT CAUSE NEW VIOLATION OF  
STATE 24-HOUR PM10 STANDARD (50 ttg/m<sup>3</sup>)  
(2008-2010 METEOROLOGICAL DATA)**

<b>Date</b>	<b>Ambient Measurement</b>	<b>Project Impact</b>	<b>Combined Concentration</b>	<b>New Violation?</b>
<i>Chula Vista Monitoring Data (2008-2010)</i>				
10/27/2008	54	2	56	NO
10/28/2009	58	2	60	NO
11/9/2009	53	2	55	NO
1/1/2009	47	2	49	NO
<i>Donovan Monitoring Data (2010)</i>				
1/26/2010	49	0.3	49	NO
8/24/2010	57	0.7	58	NO
9/29/2010	54	0.6	55	NO
10/29/2010	56	0.6	57	NO
12/4/2010	50	0.3	50	NO
12/10/2010	50	0.3	50	NO



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT  
COMMISSION OF THE STATE OF CALIFORNIA  
1516 NINTH STREET, SACRAMENTO, CA 95814  
1-800-822-6228 — [WWW.ENERGY.CA.GOV](http://WWW.ENERGY.CA.GOV)

APPLICATION FOR CERTIFICATION  
FOR THE *PIO PICO ENERGY CENTER, LLC*

**Docket No. 11-AFC-1**  
**PROOF OF SERVICE**  
(Revised 8/15/11)

**Pio Pico Energy Center, LLC**

**Letter to Eric Solorio, Siting Project Manager, California Energy Commission,  
dated November 8, 2011 re Air Quality Modeling Submitted to the  
San Diego Air Pollution Control District**

**APPLICANT**

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**INTERESTED AGENCIES**

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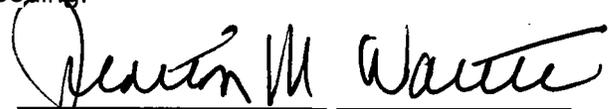
**DECLARATION OF SERVICE**

I, Judith M. Warmuth, declare that on November 8, 2011, I deposited copies of the aforementioned document and, if applicable, a disc containing the aforementioned document in the United States mail at 500 Capitol Mall, Suite 1600, Sacramento, California 95814, with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

**AND/OR**

Transmission via electronic mail, personal delivery and first class U.S. mail were 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 under the laws of the State of California that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

A handwritten signature in black ink, appearing to read "Judith M. Warmuth", written over a horizontal line.

Judith M. Warmuth