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March 20, 2012

**VIA EMAIL**

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

**DOCKET**

**11-AFC-1**

DATE MAR 20 2012

RECD. MAR 20 2012

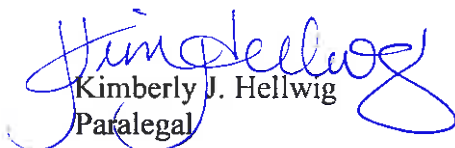
**Re: Pío Pico Energy Center Project (11-AFC-01)**  
**PSD Permit Application, Response to Supplemental Information Request**  
**(GHG BACT)**

Dear Mr. Solorio:

On March 19, 2012, Applicant Pío Pico Energy Center LLC provided supplemental information to the United States Environmental Protection Agency, Region 9 for the Pío Pico Energy Center Project ("PPEC"). To that end, Applicant submits such information herein for docketing in the PPEC Application for Certification proceeding.

If you have any questions concerning this filing, please do not hesitate to contact our office.

Respectfully submitted,



Kimberly J. Hellwig  
Paralegal

KJH:jmw  
Enclosures

cc: Proof of Service List

**From:** Steve Hill

**Sent:** Monday, March 19, 2012 12:05 PM

**To:** Gerardo Rios ([rios.gerardo@epa.gov](mailto:rios.gerardo@epa.gov)); [Kohn.Roger@epamail.epa.gov](mailto:Kohn.Roger@epamail.epa.gov); [Holladay.Cleveland@epamail.epa.gov](mailto:Holladay.Cleveland@epamail.epa.gov)

**Cc:** 'Dave Jenkins'; [grchandler@apexpowergroup.com](mailto:grchandler@apexpowergroup.com); 'Craig Kebodeaux'; McKinsey, John A.; Gary Rubenstein; Moore, Steve

**Subject:** Pio Pico PSD Application Visibility Analysis

As requested by EPA, PPEC is providing the attached letter, which provides a level 2 visibility analysis for sensitive Class II areas . This letter is provided as an addition to the record supporting PPEC's PSD permit application.

Please let me know if you have any questions.

Steve Hill

March 19, 2012



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research**

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Mr. Gerardo Rios  
Chief, Permits Office  
U.S. EPA Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

**Subject: Pio Pico Energy Center PSD Permit Application  
Response to Supplemental Information Request**

Dear Mr. Rios:

As requested by EPA during the February 13, 2012 conference call between representatives of EPA and Pio Pico Energy Center, LLC (Applicant), we are submitting this additional information on behalf of Applicant.

### Proposed Language for GHG BACT

*Comment: It is known that turbine efficiency tends to decrease over the lifetime of the turbine, even under the best of circumstances. If EPA imposed a single numerical limit that would apply to the turbine over its lifetime, it would either be too low for a new unit, or too high for a unit at the end of its life cycle, or both. EPA is therefore considering defining GHG BACT as an initial demonstration of turbine efficiency, coupled with ongoing maintenance. Please provide suggested language for EPA's consideration.*

**Response:** Applicant proposes the following language:

1. GHG BACT requirements
  - a. Performance Test
    - i. Within 60 days after achieving normal operation, but not later than 180 days after the initial startup of equipment, Permittee shall conduct a performance test to demonstrate the thermal efficiency ( $\text{btu}_{\text{hHV}}/\text{kw-hr}_{\text{net}}$ ) of each turbine at maximum capacity. Each turbine shall meet one of the following requirements, depending upon the conditions at the time of the test:
      1. Less than 8,647  $\text{btu}/\text{kw-hr}$  below 30°F ambient temperature; or
      2. Less than 8,747  $\text{btu}/\text{kw-hr}$  between 30°F and 63°F ambient temperature; or
      3. Less than 8,929  $\text{btu}/\text{kw-hr}$  between 63°F and 110°F ambient temperature.

- b. Monitoring
  - i. Permittee shall measure and record, for each turbine, the following:
    - 1. Net energy output ( $MWh_{net}$ ) on an hourly basis
    - 2. Fuel consumption (MMSCF of natural gas) on an hourly basis
- c. Maintenance requirements
  - i. Permittee shall maintain each turbine, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.
  - ii. Permittee shall prepare a Maintenance Plan for each turbine. The Maintenance Plan shall follow manufacturer's written instructions or operator-developed procedures that provide, to the extent practicable, for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
  - iii. Permittee shall maintain each turbine according to the Maintenance Plan.
- d. Recordkeeping requirements
  - i. Permittee shall maintain a log describing maintenance and repair activities, including the following information:
    - 1. Date of activity
    - 2. Description of activity
    - 3. For scheduled maintenance, the elapsed time, hours of turbine operation, or other applicable measure since the activity was last performed.
    - 4. For scheduled maintenance, the elapsed time, hours of turbine operation, or other applicable measure until the activity should next be performed.

The proposed thermal efficiency limits are based on GE performance projections for clean and new equipment at the upper end of each temperature range.

### Summary of $PM_{2.5}$ NAAQS Compliance Calculation

*Comment: Please show the calculations and relevant data used to demonstrate compliance with the 24-hour and annual  $PM_{2.5}$  NAAQS.*

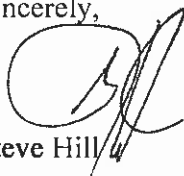
**Response:** The requested calculations are presented in Tables 1 and 2 for the 24-hour and annual average standards, respectively. Compliance with the 24-hour standard is demonstrated using the receptor with the highest five-year average of 98<sup>th</sup> percentile of cumulative impacts (project plus nearby sources plus background).

<b>Table 1</b> <b>24-hr PM<sub>2.5</sub> NAAQS Compliance Calculation (<math>\mu\text{g}/\text{m}^3</math>)</b> <b>Data are for 98<sup>th</sup> percentile day for each year</b> <b>Standard = 35 <math>\mu\text{g}/\text{m}^3</math></b>						
Year	2004	2005	2006	2007	2008	Five-Year Average
Date	March 20	March 11	Feb. 26	Nov. 8	Jan. 10	
Project Impact ( $\mu\text{g}/\text{m}^3$ )	0.2	0.2	0.1	0.3	0.3	0.2
Cumulative Impact ( $\mu\text{g}/\text{m}^3$ )	0.8	0.5	0.5	0.9	0.9	0.7
Regional Background ( $\mu\text{g}/\text{m}^3$ )	30.0	28.0	24.0	27.0	26.0	27.0
Total Impact with Background	30.8	28.5	24.5	27.9	26.9	27.7

Compliance with the annual standard is demonstrated using a screening approach, where the highest background value in the five-year period is added to the highest cumulative impact. Because the result is below the standard, more refined calculations were not made.

<b>Table 2</b> <b>Annual PM<sub>2.5</sub> NAAQS Compliance Calculation (<math>\mu\text{g}/\text{m}^3</math>)</b> <b>Standard = 15 <math>\mu\text{g}/\text{m}^3</math></b>						
Year	2004	2005	2006	2007	2008	Maximum
Background	12.2	11.8	11.2	12.5	12.3	12.5
Cumulative Max	1.4	1.5	1.5	1.6	1.9	1.9
Total						14.4

Sincerely,



Steve Hill

cc: John McKinsey, Stoel Rives LLP  
 David Jenkins, Apex Power Group  
 Steve Moore, SDAPCD

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT  
COMMISSION OF THE STATE OF CALIFORNIA  
1516 NINTH STREET, SACRAMENTO, CA 95814  
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APPLICATION FOR CERTIFICATION  
FOR THE *PIO PICO ENERGY CENTER, LLC*

Docket No. 11-AFC-1  
PROOF OF SERVICE  
(Revised 3/19/12)

**Pio Pico Energy Center, LLC**

**Letter to Eric Solorio, California Energy Commission, dated March 20, 2012  
Re PSD Permit Application, Response to Supplemental Information Request  
(GHG BACT)**

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## **DECLARATION OF SERVICE**

I, Judith M. Warmuth, declare that on March 20, 2012:

☒ 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 herein and consistent with the requirements of California Code of Regulations, Title 20, sections 1209, 1209.5, and 1210.

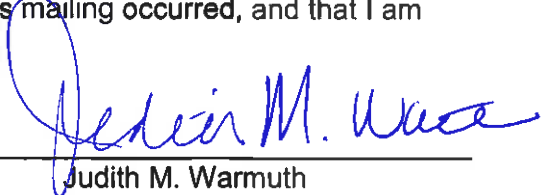
### **AND/OR**

☒ I transmitted the document(s) herein via electronic mail only pursuant to California Energy Commission Standing Order re Proceedings and Confidentiality Applications dated November 30, 2011. All electronic copies were sent to all those identified on the Proof of Service list herein and identified as those who prefer email only, consistent with the requirements of California Code of Regulations, Title 20, sections 1209, 1209.5, and 1210.

### **OR**

☐ On the date written above, I placed a copy of the attached document(s) in a sealed envelope, with delivery fees paid or provided for, and arranged for it/them to be delivered by messenger that same day to the office of the addressee, as identified on the Proof of Service list herein and consistent with the requirements of California Code of Regulations, Title 20, sections 1209, 1209.5, and 1210.

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.

  
\_\_\_\_\_  
Judith M. Warmuth