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February 6, 2013

California Energy Commission
DOCKETED
12-AFC-02
TN # 69422
FEB. 06 2013

VIA EMAIL

Ms. Felicia Miller, Siting Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Re: Huntington Beach Energy Project (12-AFC-02)
Correspondence Related to Air Quality – Ammonia Emissions

Dear Ms. Miller:

On behalf of Applicant AES Southland Development, LLC, please find enclosed herewith for docketing correspondence related to ammonia emissions for the Huntington Beach Energy Project.

Respectfully submitted,

Melissa A. Foster

MAF:jmw
Enclosure
cc: Proof of Service List

[redacted]

From: Salamy, Jerry/SAC
Sent: Monday, January 28, 2013 9:59 AM
To: 'Qian, Wenjun@Energy'
Cc: Ali, Anwar@Energy; Bemis, Gerry@Energy; Jiang, Tao@Energy; Chu, Ann@Energy; Mason, Robert/SCO; 'Stephen O'Kane'; Engel, Elyse/SJC; Beattie, Benjamin/SAC
Subject: RE: Ammonia emissions for Huntington Beach

Hi Wenjun,

The worst case annual ammonia emissions of 42 tons per year per turbine presented in the AFC (Appendix Table 5.1B.5) were based on an ammonia emission rate of 12.6 lb/hr for 6665 hours per turbine (representing 1200 duct fired hours and 5465 unfired hours). The resulting worst case emissions were conservatively used to estimate the human health risk. In response to South Coast Air Quality Management District comments, the operating profile for HBEP was revised (see AES's response to Data Request #12). A more accurate estimate of the annual ammonia emissions is 32 tons per year per turbine (470 hours/year * 12.6 lb NH3/hr + [(5900 operational hours/year + 465 start/stop hours/year) * 9.1 lb NH3/hr]), based on an ammonia exhaust concentration of 5 parts per million. As noted in footnote 3 of AES's response to Data Request 24, the 5 ppm ammonia slip level is a maximum allowable concentration and the ammonia emissions are expected to be significantly lower than the allowable limit as the SCR catalyst will be in a new, clean condition and catalyst efficiency will be at its highest. However, as the SCR system degrades, the ammonia emissions will increase to a point where catalyst replacement is required. The SCR degradation is measured periodically and the rate of degradation can be predicted so that catalyst replacement can be scheduled to avoid exceeding the allowable NOx or ammonia emission limitations. As a result, the replacement of the catalyst occurs well before the ammonia emissions reach the maximum allowable concentration. Therefore, a median point in the range of ammonia emissions (2.5 parts per million or 16 tons per year per turbine) was assumed to estimate the annual nitrogen deposition due to the ammonia emissions.

Please let me know if you have any additional questions.

Jerry Salamy
Principal Project Manager
CH2M HILL/Sacramento
Phone 916-286-0207
Fax 916-614-3407
Cell Phone 916-769-8919

From: Qian, Wenjun@Energy [mailto:Wenjun.Qian@energy.ca.gov]
Sent: Thursday, January 24, 2013 4:36 PM
To: Salamy, Jerry/SAC
Cc: Ali, Anwar@Energy; Bemis, Gerry@Energy; Jiang, Tao@Energy; Chu, Ann@Energy
Subject: Ammonia emissions for Huntington Beach

Mr. Salamy,

I'm checking the nitrogen deposition modeling for the Huntington Beach project. I noticed the annual ammonia emissions were calculated to be 42 tpy in the original AFC. I have double checked the calculations but my number does not agree with the 42 tpy using emissions from Scenarios 6 and 7. In the recent data response (set 1B) to DR24 for Biological Resources, the ammonia emissions became 16 tpy in Table DR24-1 instead of 42 tpy. I noticed the ammonia slip rate has been changed to 2.5 ppmv instead of 5 ppmv in the AFC. And the number of operational hours has changed in AQ emissions calculations from the data responses.

Would you please provide us the original and revised calculations for the ammonia emissions?

Thanks.

Wenjun Qian, Ph.D., P.E.
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BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
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1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION FOR THE HUNTINGTON BEACH ENERGY PROJECT

Docket No. 12-AFC-02
PROOF OF SERVICE
(Revised 12/24/12)

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After docketing, the Docket Unit will provide a copy to the persons listed below. Do not send copies of documents to these persons unless specifically directed to do so.

*indicates change

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Adviser to Commissioner Douglas

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Project Manager

Kevin W. Bell
Staff Counsel

DECLARATION OF SERVICE

I, Judith M. Warmuth, declare that on February 6, 2013, I served and filed copies of the attached **Applicant's Correspondence Related to Air Quality – Ammonia Emissions** dated February 6, 2013. This document is accompanied by the most recent Proof of Service list, which I copied from the web page for this project at:
http://www.energy.ca.gov/sitingcases/huntington_beach_energy/index.html.

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, as appropriate, in the following manner:

(*Check one*)

For service to all other parties and filing with the Docket Unit at the Energy Commission:

☒ I e-mailed the document to all e-mail addresses on the Service List above and personally delivered it or deposited it in the US mail with first class postage to those parties noted above as "hard copy required"; **OR**

☐ Instead of e-mailing the document, I personally delivered it or deposited it in the US mail with first class postage to all of the persons on the Service List for whom a mailing address is given.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that I am over the age of 18 years.

Dated: February 6, 2013

Judith M. Warmuth

Judith M. Warmuth