DOCKETED

Docket Number:	12-AFC-02
Project Title:	Huntington Beach Energy Project
TN #:	202632
Document Title:	Applicant's Submittal of Correspondence re Air Quality
Description:	N/A
Filer:	Kimberly Hellwig
Organization:	Stoel Rives LLP
Submitter Role:	Applicant
Submission Date:	6/30/2014 11:28:22 AM
Docketed Date:	6/30/2014

[redacted]

From: Jerry.Salamy@CH2M.com
Sent: Thursday, June 26, 2014 3:28 PM
To: Hellwig, Kimberly J.
Subject: FW: HBEP comment response letters
Attachments: epa comment response letter.pdf; city comment response letter.pdf; public comment response letter.pdf

From: Chris Perri [mailto:CPerri@aqmd.gov]
Sent: Thursday, June 26, 2014 11:26 AM
To: Salamy, Jerry/SAC
Subject: HBEP comment response letters

Jerry,

Attached are the comment response letters you requested. And I was mistaken on the AES comment letter, we did not prepare a formal response to those comments. As an informal response to those comments, 1) we will include the stack device for Turbine 2B, 2) the calculation for the NOx RTCs was corrected (I had the wrong amounts in the table for each turbine/duct burner, the correct sum is still 314,054), 3) we are not agreeable to adding the source test option for condition F2.1, at least not for the permit to construct. Possibly we can continue to discuss this issue with AES, and 4) we will correct any inconsistencies in the PSD discussions.

Let me know if you have any questions,

Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
(909) 396-2696

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

June 12, 2014

Mr. Cleveland Holladay
US EPA Region 9 – Air 7
75 Hawthorne St
San Francisco, CA 94105

Subject: Huntington Beach Energy Project (HBEP)
Preliminary Determination of Compliance, Response to Comments

Dear Mr. Holladay,

Thank you for your e-comment dated May 12, 2014 regarding the Huntington Beach Energy Project (HBEP).

Your first comment pertains to Table 4.3 in the document which summarizes the modeling results of the proposed project. In response to your comment, the table will be clarified in the Final Determination of Compliance (FDOC) document. The revised table will be changed to the following:

Pollutant	Averaging Period	Maximum Predicted Impact (ug/m3)	Background Concentration (ug/m3)	Total Concentration (ug/m3)	NAAQS (ug/m3)	CAAQS (ug/m3)
NO2	1-hour	***52.2***	140	***192.2***	NA	339
	Federal 1-hr	***52.2***	***100***	***152.2***	***188***	***NA***
	Annual	0.5	21.3	21.8	***100***	57
CO	1-hour	333	3,329	3,662	40,000	23,000
	8-hour	78	2,530	2,608	10,000	10,000
SO2	1-hour	7.1	24.9	32.0	NA	655
	1-hour	7.1	10.7	17.8	196	NA
	24-hour	2.4	5.5	7.9	365	105
PM10	24-hour	4.7	48.0	52.7	***150***	***NA***

We understand your second comment is to clarify that the PM10 modeled impact of 4.7 ug/m3 is less than the Significant Impact Level (SIL) of 5 ug/m3. The SCAQMD will include this in the FDOC, however, based on the HBEP's estimated emissions, the project is not subject to PSD for PM10, since the project emissions of PM10 are less than 100 tpy.

And finally, your suggested changes in comments 3 and 4 will be incorporated into the FDOC.

Please contact Mr. Andrew Lee, Senior Engineering Manager, at (909) 396-2643, or alee@aqmd.gov, if you have any further questions.

Very truly yours,

Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering and Compliance

Cc: Gerardo Rios
Attachment
MN:AYL:CDT:JTY:CGP

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

June 11, 2014

Mr. Fred Wilson
City Manager
City of Huntington Beach
2000 Main Street
Huntington Beach, CA 92648

Subject: Huntington Beach Energy Project (HBEP)
Preliminary Determination of Compliance, Response to Comments

Dear Mr. Wilson,

Thank you for your comment letter dated May 5, 2014 relative to the South Coast Air Quality Management District's (SCAQMD) Preliminary Determination of Compliance (PDOC) and proposed Title V Permit to Construct from the Huntington Beach Energy Project (HBEP). Your interest and willingness to express the concerns on behalf of the City of Huntington Beach is the type of municipal involvement that is critical to the effort to achieve healthful air quality in Southern California. As you know, the HBEP is a combined cycle gas turbine power plant project proposed for the existing Huntington Beach Generating Station located at 21730 Newland St, Huntington Beach, CA 92646. The project as proposed will replace two older, less efficient utility boilers (No. 1 and No. 2) currently operating on this site since the 1950's, with a more efficient combined cycle gas turbine generating system.

The City of Huntington Beach has made a request to the SCAQMD, "(to) develop an investment plan consistent with the CPV Sentinel template where the mitigation funding is expended in communities and on projects closest to the project." On September 6, 2013, SCAQMD adopted Rule 1304.1 – Electrical Generating Facility Fee for Use of Offset Exemption with the intent to invest the fees collected in air pollution improvement strategies for the pollutants (or their precursors) for which the fee is paid consistent with the needs of the SCAQMD Air Quality Management Plan.

Rule 1304.1, Paragraph (d)(1) – Use of Offset Fee Proceeds, states "Except as provided in Paragraph (d)(2), the Offset Fee proceeds paid pursuant to this rule shall be deposited in an SCAQMD restricted fund account and shall be used to obtain emission reductions consistent with the needs of the Air Quality Management Plan. Priority shall be given to funding air quality improvement projects in impacted surrounding communities where the repowering EGF projects are located." The last sentence of Paragraph (d)(1) to give priority to funding air quality improvement projects in the impacted surrounding communities where the repowering EGF project are located was included to acknowledge that the area where the EGF project is to be

located should be mitigated with these air quality improvement projects to help offset emission impacts by the new project.

Also, in the Resolution adopted with Rule 1304.1, the SCAQMD Governing Board directed staff to work closely with stakeholders on a plan to outline how the fee revenue generated from Rule 1304.1 will be utilized and to report back to both SCAQMD Stationary Source Committee and the Governing Board. SCAQMD staff is presently developing this plan and will consider your comments as well as input from other stakeholders as part of the proposed plan.

We appreciate the effort spent by your staff to review and provide comments in response to the public notice for this project. Please contact me at (909) 396-2662, if you have any questions.

Very truly yours,

Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering and Compliance

MN:AYL

cc: CEC, Docket No.: 12-AFC-02
Aaron Klemm, Huntington Beach, City Manager's Office
Jane James, Huntington Beach, Planning and Building Dept.

South Coast
Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4182

(909) 396-2000 - www.aqmd.gov

June 6, 2014

Ms. Monica Rudman
Via email at Monica_rudman@hotmail.com

Subject: Huntington Beach Energy Project (HBEP)
Preliminary Determination of Compliance, Response to Comments

Dear Ms. Rudman,

Thank you for your comment letter dated May 5, 2014 on the Huntington Beach Energy Project (HBEP). Your interest and willingness to express your concern is the type of citizen involvement that is critical to the effort to achieve healthful air quality in Southern California. As you know, the HBEP is a combined cycle gas turbine power plant project proposed for the existing Huntington Beach Generating Station located at 21730 Newland St, Huntington Beach, CA 92646. The project as proposed will replace the older, less efficient utility boilers currently operating on this site since the 1950's, with a state of the art and more efficient combined cycle gas turbine generating system.

We realize that the issues involved in air permitting are technical in nature, and may be difficult for lay-persons to fully comprehend. Unfortunately the Clean Air Act requirements and federal, state, and local air quality rules and regulations governing the permitting of this type of equipment are complex and in order to evaluate the equipment and demonstrate compliance, a technical discussion is warranted. However, we do wish to fully inform the public about the projects we permit, and to this end, we and the California Energy Commission provide opportunities for community involvement through public notices and public meetings held in the location of the project. This gives individuals a chance to seek information and share their concerns.

Harmful Particulate Pollution

Your comment centers around the issue of the actual PM10 emissions from the existing plant as compared to the new plant's potential to emit (PTE), and the health effects of the particulate emissions.

While a comparison of the actual emissions to potential to emit (PTE) will almost always show that the new plant has a larger PTE than the old plant's actual emissions, in reality the extent to which the new plant will actually operate is somewhat uncertain. Generally, a plant operator will wish to permit the project at a high enough level to allow flexibility in its operation and to avoid a situation where the plant has to cease operation because of permit restrictions. This may be the operator's 'worst case' emission scenario. However, page 13 of the PDOC states that the plant operator has estimated that the actual operating time of the plant would be between 35-50% on an annual basis. And although the actual emissions from the new plant may still be higher than the actual emissions from the existing plant, the new plant will be more efficient meaning it generates the same amount of electricity while burning less fuel than the existing utility boilers. Also, the actual emissions may be a fraction of the PTE.

Furthermore, the PM10 and PM2.5 air quality of coastal Orange County (i.e., area of the proposed project) is among the cleanest regions in the four-county jurisdictional area of the SCAQMD; see Figures 1 through 3, which are taken from the 2012 Air Quality Management Plan (http://www.aqmd.gov/aqmp/2012aqmp/index.htm). As shown in Figure 1, the annual PM10 air quality is well below the old annual National Ambient Air Quality Standard (NAAQS) of 50 mg/m^3 (The annual PM10 NAAQS was revoked in 2006). The whole four-county jurisdictional area (including coastal Orange County) currently meets the 24-hour PM10 NAAQS of 150 mg/m^3. As shown in Figures 2 and 3, the PM2.5 air quality along coastal Orange County is below the 24-hour and annual NAAQS of 35 mg/m^3 and 12 mg/m^3, respectively. It is anticipated that the Huntington Beach area will continue to have some of the cleanest air quality levels amongst the four-county jurisdictional area of the SCAQMD even with the development of the Huntington Beach Energy Project.

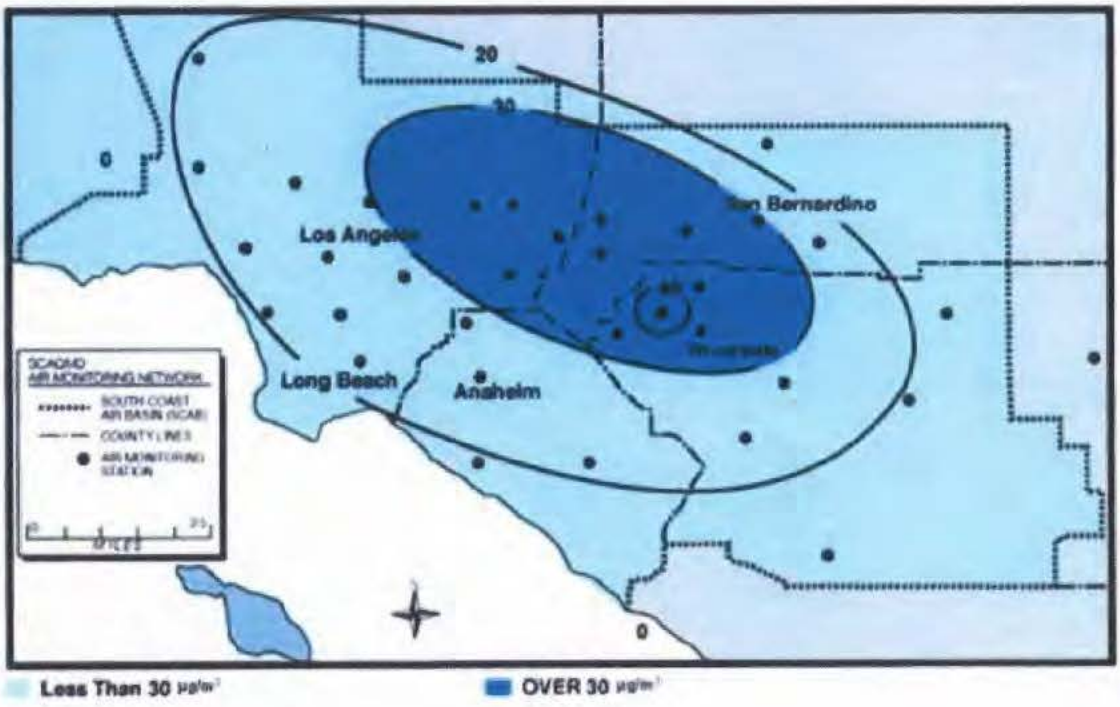

Figure 1. Annual Arithmetic Mean PM10 Particulate Matter (μg/m^3) in 2011.

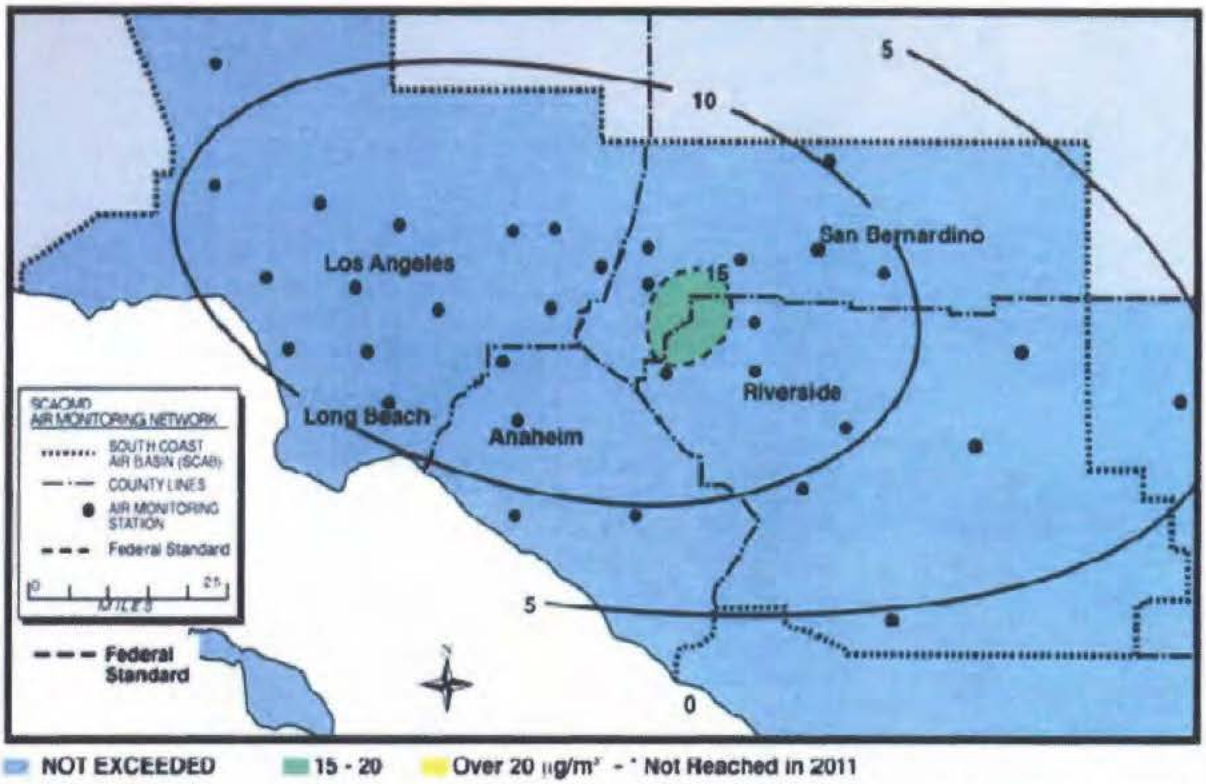

Figure 2. Annual Average PM2.5 (μg/m^3) in 2011 (Annual PM2.5 NAAQS = 15 μg/m^3, annual arithmetic mean).

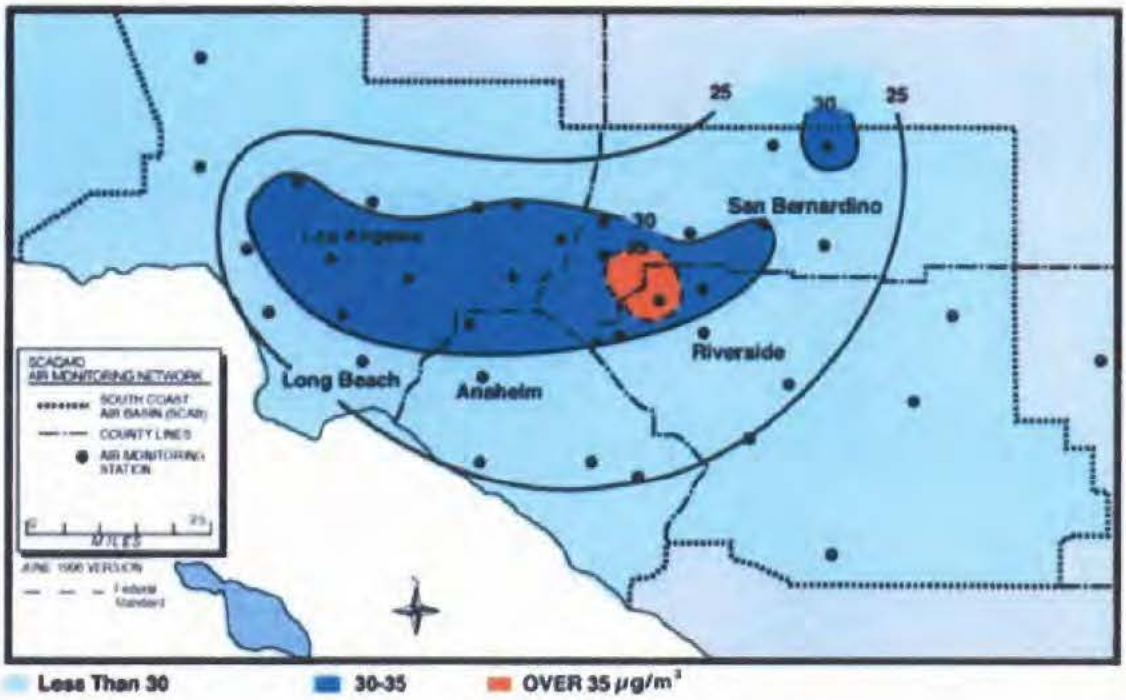

Figure 3. 98th Percentile 24-Hour Average PM2.5 (µg/m^3) in 2011 (24-hour PM2.5 NAAQS = 35 µg/m^3).

And finally, while Rule 1304(a)(2) offset exemption for repowering projects such as HBEP was in no way intended to result in an increase in emissions for any particular neighborhood, it was enacted to allow for the replacement of older less efficient existing generating units with new modern more efficient power plants, which in turn is beneficial to air quality in the basin as a whole. Further, even if the project was not exempt from offsets pursuant to Rule 1304(a)(2), the federal Clean Air Act allows the use of emission reduction credits which may have been generated at a different area in the air basin to offset emission increases at another location. It should be noted that the District provides offsets from its internal bank for projects exempt from offsets under Rule 1304(a)(2) and accounts for those offsets in its annual reports to the EPA. These offsets consist largely of "orphan shutdowns" that have occurred in the District but have not received emission reduction credits as a result of the shutdown.

Air Quality Monitoring Inputs

Your comment is in regards to the John Wayne Airport weather data used to perform the modeling for HBEP, as opposed to Costa Mesa weather data, and the inclusion of emissions from beach bonfires in the analysis.

There are a limited number of wind monitors in coastal Orange County and there are even fewer sites that have the necessary information (e.g., solar radiation and fractional cloud coverage) for air dispersion modeling. Two sites were considered for the air quality modeling analysis: Costa Mesa at 2850 Mesa Verde Drive East and John Wayne Airport. The John Wayne Airport was chosen over the Costa Mesa site for the following reasons at that time (August 2013):

- **Less Missing Data** – The U.S. Environmental Protection Agency (EPA) has established limits on the percent of missing data for meteorological data used in dispersion modeling (i.e., no more that 10% per calendar quarter). The John Wayne Airport meets this criterion whereas Costa Mesa did not. In addition, overall the John Wayne Airport had less missing data than Costa Mesa (i.e., 870 hrs vs. 2,225 hrs).
- **John Wayne Airport Data More Current** – The period of record for the John Wayne Airport data was 2008 to 2012 whereas the period of record for the Costa Mesa data was 2005 to 2009. EPA recommends that the most current data be used.
- **Surface Characteristics at John Wayne Airport More Similar to the Project Site** – The surface roughness at John Wayne Airport in the predominant wind direction (i.e., from the SW quadrant) is more similar to the project site than the Costa Mesa data. This is also a criterion that EPA uses to select meteorological data for dispersion modeling.
- **Costa Mesa Data Shortfall** – Depending on how the Costa Mesa data are processed the percent calms can vary from 0 to 38 percent (or from 0 hrs to 16,848 hrs).

Although the bonfire emissions were not modeled directly as part of the dispersion modeling analysis for the PDOC, they are indirectly taken into account in the background air quality assumptions. The nearest air quality monitor to the proposed project (Anaheim, Station No. 3195) was used to estimate background concentrations in the vicinity of the proposed project. These monitored concentrations would include the cumulative impacts of all exiting sources upwind of the sampler, including beach fires if they were occurring during the monitoring period. The project increments are then added to the background concentration for comparison to federal and state ambient air quality standards.

Effects on State Parks

Your comment concerns the impacts of the project emissions on visibility at the Huntington State Beach, a Class II area as defined by EPA.

To address your comment, a visibility analysis was performed for potential visibility impacts from the project on visitors at Huntington State Beach. Briefly, only the hours during which the state beach is open (6 a.m. to 10 p.m.), were considered, and it was conservatively assumed that the emissions from all six exhaust stacks are combined and emitted through a single stack. Lastly, it was assumed that a beach visitor would be looking up at the sky through the plume from the project. Under these conservative conditions, the visibility impacts at Huntington State Beach exceed the Class I significance thresholds for plume contrast and color contrast.

Please note that neither VISCREEN (the model used in the analysis) nor the Class I visibility thresholds were established for Class II areas in southern California, which contain numerous urban areas and lots of commercial and industrial activity. EPA requires, for informational purposes only, a visibility analysis of Class II areas using the Class I visibility thresholds and the

VISCREEN model. However, this does not necessarily mean that permitting actions or project mitigation are required for any significant Class II visibility impacts that are found. As part of the Application for Certification (AFC) process that the California Energy Commission (CEC) is the lead agency for addressing all environmental impacts and, the question you pose may be best addressed by CEC regarding project mitigation.

Health

Your comment pertains to the health effects of the project on long-term residents living in the area.

While the health risk assessment does not go back retrospectively and evaluate previous health impacts to long-term residents, cancer risks from the project assume that individuals are exposed to the project's emissions continuously (except for two weeks each year) from birth through 70 years old. Potential cancer risks less than 10 in a million and non-cancer impacts less than a hazard index of one are considered in compliance with applicable rules and regulations. The peak cancer risk impacts from the AES Huntington Beach Energy Project are 2.4 in a million and the non-cancer chronic and acute hazard indices are 0.008 and 0.069, respectively, which are well within the rule requirement of District Rule 1401. Also, these impacts are conservative since there are associated emission decreases with the shut-down of boiler units 1 and 2, which are not addressed in the analysis.

It should be noted that coastal Orange County, the site of the project, has some of the lowest inhalation cancer risks in the jurisdictional area of the SCAQMD as shown in Figure 4, which was taken from the Multiple Air Toxics Exposure Study (MATES) III report (http://www.aqmd.gov/prdas/matesIII/matesIII.html). MATES IV reports are currently under development and should be available in the summer of 2014. Coastal Orange County will continue to have some of the lowest inhalation cancer risks in SCAQMD's jurisdictional area.

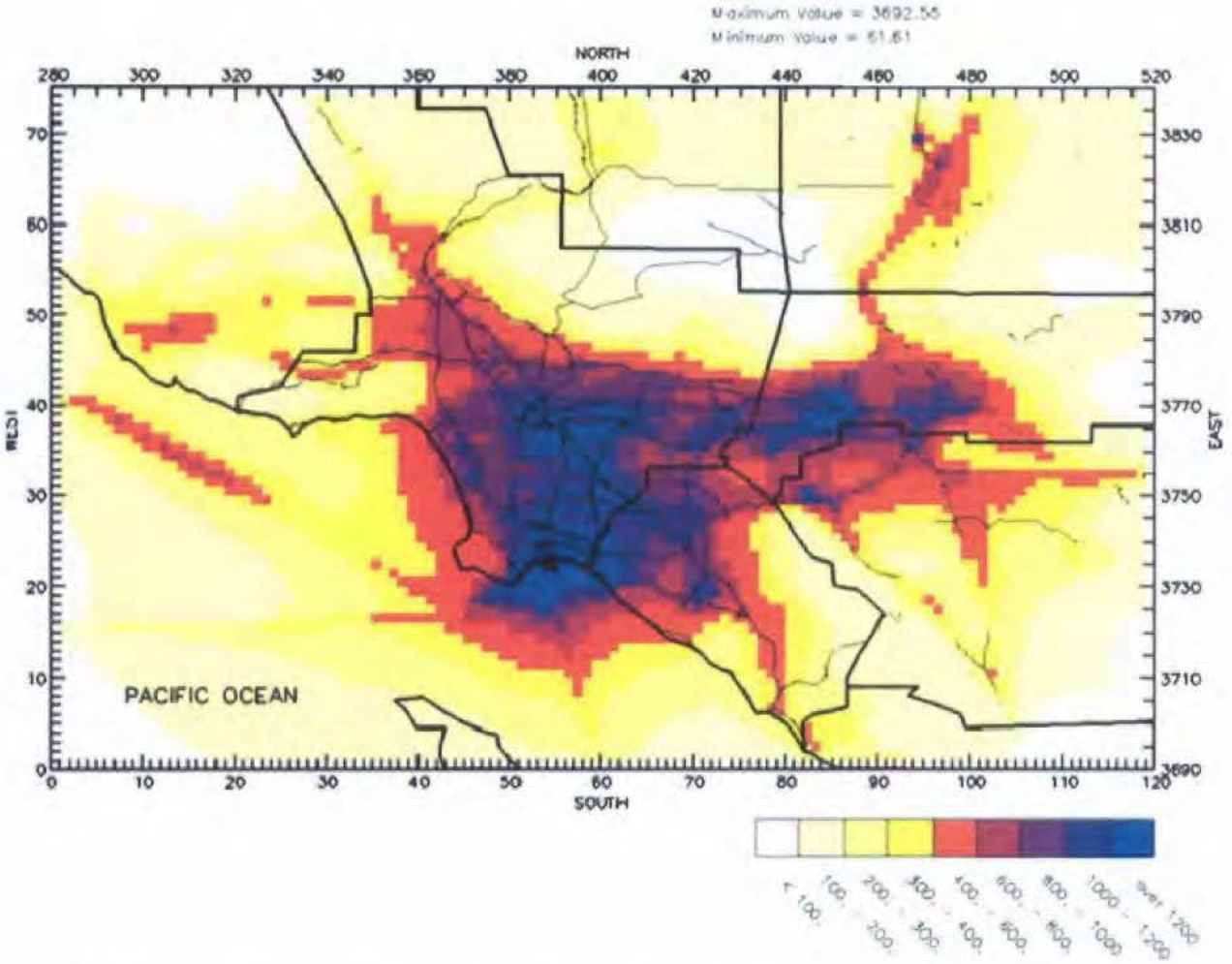

Figure 4. Model-estimated inhalation cancer risk for MATES III (2005 time period).

Greenhouse Gases

Your comment pertains to the thermal efficiency of the new gas turbines proposed for HBEP as compared to the state-wide average thermal efficiency of natural gas fired generation in California as reported in a 2012 CEC document. While it is true that the heat rate of the turbines proposed by HBEP is higher than a typical natural gas fired combined cycle generating plant, the turbines at HBEP maintain a fairly consistent heat rate throughout their operating range. This was an important consideration for the project proponent because their operational requirements necessitate multiple daily start ups with frequent ramping and load following. Under these conditions, the turbines chosen for HBEP will experience minimal loss in efficiency, whereas other turbine models may not have similar capabilities in this regard.

We appreciate the effort spent by you to review and provide comments in response to the public notice for this project. Thank you again for taking the time to provide comments.

Very truly yours,

Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering and Compliance

MN:AYL:CDT:JTY:CGP

cc: CEC, Docket No.: 12-AFC-02

[redacted]

From: Jerry.Salamy@CH2M.com
Sent: Wednesday, March 26, 2014 10:45 AM
To: CPerri@aqmd.gov
Cc: Elyse.Engel@ch2m.com; Robert.Mason@CH2M.com; Cindy.Salazar@CH2M.com
Subject: CA Emission Performance Standard Basis
Attachments: Chapter11_Article1_SB1368_Regulations.PDF

Hi Chris,

From Sections 2902 and 2903 (excerpted below), it appears that the state Emission Performance Standard (EPS) is based on CO2 exclusively.

§ 2902 Greenhouse Gases Emission Performance Standard
(a) The greenhouse gases emission performance standard (EPS) applicable to this chapter is 1100 pounds (0.5 metric tons) of carbon dioxide (CO_2) per megawatt hour (MWh) of electricity.

§ 2903 Compliance with the Emission Performance Standard
(a) Except as provided in Subsection (b), a powerplant's compliance with the EPS shall be determined by dividing the powerplant's annual average carbon dioxide emissions in pounds by the powerplant's annual average net electricity production in MWh. This determination shall be based on capacity factors, heat rates, and corresponding emissions rates that reflect the expected operations of the powerplant and not on full load heat rates.

REGULATIONS ESTABLISHING AND IMPLEMENTING A GREENHOUSE GASES EMISSION PERFORMANCE STANDARD FOR LOCAL PUBLICLY OWNED ELECTRIC UTILITIES

Chapter 11. Greenhouse Gases Emission Performance Standard

Article 1. Provisions Applicable to Powerplants 10 MW and Larger

§ 2900 Scope

This Article applies to covered procurements entered into by local publicly owned electric utilities. The greenhouse gases emission performance standard established in section 2902(a) applies to any baseload generation, regardless of capacity, supplied under a covered procurement. The provisions requiring local publicly owned electric utilities to report covered procurements, including Sections 2908, 2909, and 2910, apply only to covered procurements involving powerplants 10MW and larger.

NOTE: Authority cited: Sections 25213 and 25218(e), Public Resources Code; Section 8341, Public Utilities Code. Reference: Sections 8340 and 8341 Public Utilities Code.

§ 2901 Definitions

(a) "Annualized plant capacity factor" means the ratio of the annual amount of electricity produced, measured in kilowatt hours, divided by the annual amount of electricity the powerplant could have produced if it had been operated at its maximum permitted capacity during all hours of the year, expressed in kilowatt hours.

(b) "Baseload generation" means electricity generation from a powerplant that is designed and intended to provide electricity at an annualized plant capacity factor of at least 60 percent.

(c) "Combined-cycle natural gas" means a powerplant that employs a combination of one or more natural gas turbines and one or more steam turbines in which electricity is produced in the steam turbine from otherwise lost waste heat exiting from one or more of the gas turbines.

(d) "Covered procurement" means:

(1) A new ownership investment in a baseload generation powerplant, or

(2) A new or renewed contract commitment, including a lease, for the procurement of electricity with a term of five years or greater by a local publicly owned electric utility with:

(A) a baseload generation powerplant, unless the powerplant is deemed compliant, or

(B) any generating units added to a deemed-compliant baseload generation powerplant that combined result in an increase of 50 MW or more to the powerplant's rated capacity.

(e) "Deemed-compliant powerplant" means any combined cycle natural gas powerplant that was in operation, or for which the Commission had granted a certificate pursuant to Chapter 6 of the Warren-Alquist State Energy Resources Conservation and Development Act on or before June 30, 2007.

(f) "Dispatchable renewable resource" means any renewable resource that is not an intermittent renewable resource.

(g) "Generating unit" means any combination of physically connected generator(s), reactor(s), boiler(s), combustion turbine(s), or other prime mover(s) operated together to produce electric power.

(h) "Intermittent renewable resource" means a solar, wind, or run-of-river hydroelectricity powerplant.

(i) "Local publicly owned electric utility" means a "local publicly owned electric utility" as defined in Public Utilities Code Section 9604.

(j) "New ownership investment" means:

(1) Any investments in construction of a new powerplant;

(2) The acquisition of a new or additional ownership interest in an existing non-deemed compliant powerplant previously owned by others;

(3) Any investment in generating units added to a deemed-compliant powerplant, if such generating units result in an increase of 50 MW or more to the powerplant's rated capacity; or

(4) Any investment in an existing, non-deemed compliant powerplant owned in whole or part by a local publicly owned electric utility that:

(A) is designed and intended to extend the life of one or more generating units by five years or more, not including routine maintenance;

(B) results in an increase in the rated capacity of the powerplant, not including routine maintenance; or

(C) is designed and intended to convert a non-baseload generation powerplant to a baseload generation powerplant.

(k) "Permitted capacity" means the rated capacity of the powerplant unless the maximum output allowed under the operating permit is the effective constraint on the maximum output of the powerplant.

(l) "Powerplant" means a facility for the generation of electricity, and is:
  (1) a single generating unit; or
  (2) multiple generating units that meet the following conditions:
    (A) the generating units are co-located;
    (B) each generating unit utilizes the same fuel and generation technology; and
    (C) one or more of the generating units are operationally dependent on another.

(m) "Rated capacity" means the powerplant's maximum rated output. For combustion or steam generating units, rated capacity means generating capacity and shall be calculated pursuant to Section 2003.

(n) "Specified contract" means a contract that only provides for electricity from one or more identified powerplant(s).

(o) "Unspecified energy" means energy purchased from unspecified resources.

NOTE: Authority cited: Sections 25213 and 25218(e), Public Resources Code; Section 8341, Public Utilities Code. Reference: Sections 8340 and 8341, Public Utilities Code.

§ 2902 Greenhouse Gases Emission Performance Standard

(a) The greenhouse gases emission performance standard (EPS) applicable to this chapter is 1100 pounds (0.5 metric tons) of carbon dioxide (CO_2) per megawatt hour (MWh) of electricity.

(b) Unless otherwise specified in this Article, no local publicly owned electric utility shall enter into a covered procurement if greenhouse gases emissions from the powerplant(s) subject to the covered procurement exceed the EPS.

(c) For purposes of applying the EPS to contracts with multiple powerplants, each specified powerplant must be treated individually for the purpose of determining the annualized plant capacity factor and net emissions, and each powerplant must comply with the EPS.

(d) The term of a contract shall be determined by including the length of time from the date of first delivery through the date of last delivery, even if there are intervening periods during which there are no deliveries.

NOTE: Authority cited: Sections 25213 and 25218(e), Public Resources Code; Section 8341, Public Utilities Code. Reference: Section 8341, Public Utilities Code.

§ 2903 Compliance with the Emission Performance Standard

(a) Except as provided in Subsection (b), a powerplant's compliance with the EPS shall be determined by dividing the powerplant's annual average carbon dioxide emissions in pounds by the powerplant's annual average net electricity production in MWh. This determination shall be based on capacity factors, heat rates, and corresponding emissions rates that reflect the expected operations of the powerplant and not on full load heat rates.

(b) The following types of powerplants are determined to be compliant with the EPS:
  (1) Any in-state or out-of-state powerplant that meets the criteria of a renewable electricity generation facility as defined in Chapter 8.6 of Division 15 of the Public Resources Code and as specified by guidelines adopted thereunder, except for hybrid systems;
  (2) Powerplants using only biomass fuels that would otherwise be disposed of utilizing open burning, forest accumulation, spreading, composting, uncontrolled landfill, or landfill

utilizing gas collection with flare or engine. Biomass includes but is not limited to agricultural waste, wood waste, and landfill gas;
(3) Hydroelectric powerplants; or
(4) Nuclear powerplants.

NOTE: Authority cited: Sections 25213 and 25218(e), Public Resources Code; Section 8341, Public Utilities Code. Reference: Sections 25741 and 25747, Public Resources Code; Section 8341, Public Utilities Code.

§ 2904 Annual average carbon dioxide emissions

(a) Except as provided in Subsections (b) and (c), a powerplant's annual average carbon dioxide emissions are the amount of carbon dioxide produced on an annual average basis by each fuel used in any component directly involved in electricity production, including, but not limited to, the boiler, combustion turbine, reciprocating or other engine, and fuel cell. The fuels used in this calculation shall include, but are not limited to, primary and secondary fuels, backup fuels, and pilot fuels, and the calculation shall assume that all carbon in the fuels is converted to carbon dioxide. Fuels used in ancillary equipment, including, but not limited to, fire pumps, emergency generators, and vehicles shall not be included.
(b) For powerplants not eligible for renewable portfolio standard certification that use biomass fuels in combination with other fuel(s), the powerplant's annual average carbon dioxide emissions are the amount of carbon dioxide produced on an annual average basis by all fuels used other than biomass, biogas or landfill gas.
(c) For covered procurements that employ geological formation injection for CO_2 sequestration, the annual average carbon dioxide emissions shall not include the carbon dioxide emissions that are projected to be successfully sequestered. The EPS for such powerplants shall be determined based on projections of net emissions over the life of the powerplant. Carbon dioxide emissions shall be considered successfully sequestered if the sequestration project meets the following requirements:
    (1) Includes the capture, transportation, and geologic formation injection of CO_2 emissions;
    (2) Complies with all applicable laws and regulations; and
    (3) Has an economically and technically feasible plan that will result in the permanent sequestration of CO_2 once the sequestration project is operational.

NOTE: Authority cited: Sections 25213 and 25218(e), Public Resources Code; Section 8341, Public Utilities Code. Reference: Section 8341, Public Utilities Code.

§ 2905 Annual average electricity production

(a) Except as provided in Subsection (b), a powerplant's annual average electricity production in MWh shall be the sum of the net electricity available for all of the following: use onsite or at a host site in a commercial or industrial process or for sale or transmission from the powerplant.
(b) For the purposes of calculating compliance with the EPS, a cogeneration powerplant's annual average electricity production is the sum of the MWh of electricity produced and the useful thermal energy output expressed in MWh.

(1) Useful thermal energy output means:
(A) For a topping cycle cogeneration powerplant, the thermal energy that:
(i) is made available to an industrial or commercial process, including, but not limited to, the net of any heat contained in condensate return or makeup water;
(ii) is used in a heating application, including, but not limited to, space or domestic hot water heating; or
(iii) is used in a space cooling application, including, but not limited to, thermal energy used by an absorption chiller.
(B) For a bottoming cycle cogeneration powerplant, including, but not limited to, industrial waste-heat powered generators, the thermal energy used by an industrial process and any fuel used for supplemental firing.
(2) The useful thermal energy output shall be converted into a MWh equivalent using the standard engineering conversion factor of 3.413 MMBtu per MWh (or 3413 Btu per kWh).

NOTE: Authority cited: Sections 25213 and 25218(e), Public Resources Code; Section 8341, Public Utilities Code. Reference: Section 8341, Public Utilities Code.

§ 2906 Substitute Energy

(a) Except as provided for below, a contract with a term of five years or more that includes the purchase of unspecified energy is not compliant with the EPS.
(b) A new contract for covered procurement from identified powerplants may contain provisions for the seller to substitute deliveries of energy under any of the following circumstances:
(1) The substitute energy only comes from one or more identified powerplants, each of which is EPS-compliant.
(2) For specified contracts with non-renewable resources or dispatchable renewable resources, or a combination of each, unspecified energy purchases for each identified powerplant are permitted up to 15% of forecast energy production of the identified powerplant over the term of the contract, provided that the contract only permits the seller to purchase unspecified energy under either of the following conditions:
(A) The identified powerplant is unavailable due to a forced outage, scheduled maintenance or other temporary unavailability for operational or efficiency reasons; or
(B) To meet operating conditions required under the contract, including, but not limited to, provisions for the number of start-ups, ramp rates, or minimum number of operating hours.
(3) For specified contracts with intermittent renewable resources, the amount of substitute energy purchases from unspecified resources is limited such that total purchases under the contract, whether from the intermittent renewable resource or from substitute unspecified resources, do not exceed the total reasonably expected output of the identified renewable powerplant over the term of the contract.

NOTE: Authority cited: Sections 25213 and 25218(e), Public Resources Code; Section 8341, Public Utilities Code. Reference: Section 8341, Public Utilities Code.

§2907 Request for Commission Evaluation of a Prospective Procurement

(a) A local publicly owned electric utility may request that the Commission evaluate a prospective procurement for any of the following:
  (1) a determination as to whether a prospective procurement would extend the life of a power plant by 5 years;
  (2) a determination as to whether a prospective procurement would constitute routine maintenance; or
  (3) a determination as to whether a prospective procurement would be in compliance with the EPS.
(b) A request for evaluation under this section shall be treated by the Commission as a request for investigation under Chapter 2, Article 4 of the Commission's regulations.

NOTE: Authority cited: Sections 25213 and 25218(e), Public Resources Code; Section 8341, Public Utilities Code. Reference: Section 8341, Public Utilities Code.

§ 2908 Public Notice

Each local publicly owned electric utility shall post notice in accordance with Government Code Section 54950 et seq. whenever its governing body will deliberate in public on a covered procurement.

(a) At the posting of the notice of a public meeting to consider a covered procurement, the local publicly owned electric utility shall notify the Commission of the date, time and location of the meeting so the Commission may post the information on its website. This requirement is satisfied if the local publicly owned electric utility provides the Commission with the uniform resource locator (URL) that links to this information.
(b) Upon distribution to its governing body of information related to a covered procurement's compliance with the EPS, for its consideration at a noticed public meeting, the local publicly owned electric utility shall make such information available to the public and shall provide the Commission with an electronic copy of the document for posting on the Commission's website. This requirement is satisfied if the local publicly owned electric utility provides the Commission with the URL that links to the documents or information regarding other manners of access to the documents.
(c) For a covered procurement involving a new or renewed contract with a term of five years or more, the documentation made publicly available at the time of posting pursuant to Subsections (a) and (b) shall include at a minimum:
  (1) A description of the terms of the contract and option(s) to extend the contract;
  (2) A description and identification of the powerplant(s) providing energy under the contract, including, but not limited to, power generation equipment and fuel type;
  (3) A description of the design or operation of the powerplant(s) so as to indicate whether or not the powerplant(s) operates to supply baseload generation;
  (4) An explanation as to how the contract is compliant with the EPS; and
  (5) Supporting documents or information that allow for assessment of compliance with the standard, including, but not limited to, staff assessments and reports to the local publicly owned electric utility's governing body, planned or historical production and fuel use data, and applicable historical continuous emissions monitoring data.

(d) For a covered procurement involving a new ownership investment, the documentation made available at the time of posting pursuant to Subsections (a) and (b) shall include at a minimum:
   (1) For new construction or purchase of an existing generating unit or powerplant, a description and identification of the planned powerplant or the purchased asset specifying the power generating equipment, power source, such as fuel type, wind, or biomass, all supplemental fuel sources, and all available historical production and fuel use data;
   (2) For an incremental investment that is a covered procurement as defined in Section 2901(d), a description of the modifications to the unit(s) and their impact on generation capacity, carbon dioxide emissions, and planned operation.
   (3) For non-renewable resources, the heat rate or carbon dioxide emissions profile of the powerplant and the source of this information.

NOTE: Authority cited: Sections 25213 and 25218(e), Public Resources Code; Section 8341, Public Utilities Code. Reference: Section 8341, Public Utilities Code; Section 54950, Government Code.

§ 2909 Compliance Filings

Within ten (10) business days after a local publicly owned electric utility enters into a covered procurement, the local publicly owned electric utility shall submit a compliance filing to the Commission regarding the covered procurement. The compliance filing shall contain one paper copy with original signature and one electronic copy of the following:

(a) An attestation, signed under penalty of perjury by an agent of the local publicly owned electric utility authorized by its governing body to sign on its behalf, that:
   (1) the governing body has reviewed and approved in a noticed public meeting both the covered procurement and the compliance filing;
   (2) based on the governing body's knowledge, information or belief, the compliance filing does not contain a material misstatement or omission of fact;
   (3) based on the governing body's knowledge, information or belief, the covered procurement complies with this Article; and
   (4) the covered procurement contains contractual terms or conditions specifying that the contract or commitment is void and all energy deliveries shall be terminated no later than the effective date of any Commission decision pursuant to Section 2910 that the covered procurement fails to comply with this Article.
(b) The documentation for the covered procurement as listed in Section 2908(c) if the covered procurement is a new or renewed contract or 2908(d) if the covered procurement is a new ownership investment.
(c) For any covered procurement utilizing carbon sequestration pursuant to Section 2904(c), documentation demonstrating that Subsections 2904(c)(1)-(3) have been met.
(d) For any covered procurement that permits unspecified energy purchases, the source data and methodology the local publicly owned electric utility used in developing the level of expected output from the identified powerplants, in order to demonstrate that the limits for unspecified energy purchases were properly established.

NOTE: Authority cited: Sections 25213 and 25218(e), Public Resources Code; Section 8341, Public Utilities Code. Reference: Section 8341, Public Utilities Code.

§ 2910 Compliance Review

The executive director shall review each compliance filing and make a recommendation to the full Commission on whether the covered procurement complies with this Article. The executive director may, within 14 days after receipt of a compliance filing, notify the local publicly owned electric utility in writing that the compliance filing was not complete, and shall specify what information is missing from the filing. The Commission shall consider the executive director's recommendation and shall, within 30 days after receipt of a complete compliance filing, issue a decision on whether the covered procurement described in the compliance filing complies with this Article. The Commission decision shall become effective 30 days after the date of the decision.

NOTE: Authority cited: Sections 25213 and 25218(e), Public Resources Code; Section 8341, Public Utilities Code. Reference: Section 8341, Public Utilities Code.

§ 2911 Compliance Investigation

The Commission may on its own motion, or as a result of a request from any person, including, but not limited to, a member of the public, staff, or other agency, conduct a complaint or investigation proceeding, or both, pursuant to Chapter 2, Article 4, to determine a local publicly owned electric utility's compliance with this chapter. In conducting such a proceeding, the Commission may require the production of information and documents beyond those made available to the public during consideration of the covered procurement or submitted with the compliance filing, including, but not limited to, contracts, staff assessments and reports to the utility's governing board, land use and air quality permits, continuous emissions monitoring data, and other information or documents that may aid in assessing compliance with this chapter.

NOTE: Authority cited: Sections 25213 and 25218(e), Public Resources Code; Section 8341, Public Utilities Code. Reference: Section 8341, Public Utilities Code.

§ 2912 Case-by-Case Review for Reliability or Financial Exemptions

(a) A local publicly owned electric utility may petition the Commission for an exemption from application of this chapter to a covered procurement that would not comply with the EPS. The Commission may grant an exemption for covered procurements under this section if the local publicly owned electric utility demonstrates that:
   (1) the covered procurement is necessary to address system reliability concerns; or
   (2) extraordinary circumstances, catastrophic events, or threat of significant financial harm will arise from implementation of this chapter.

(b) Upon receipt of a petition, the executive director shall review and make a recommendation to the full Commission on whether to grant the petition. The executive director may, within 14 days after receipt of a petition, notify the local publicly owned electric utility in writing of any additional information needed to review the petition. The Commission shall consider the executive director's recommendation and shall issue a decision on whether to grant the petition within 30 days after receipt of the complete petition.

NOTE: Authority cited: Sections 25213 and 25218(e), Public Resources Code; Section 8341, Public Utilities Code. Reference: Section 8341, Public Utilities Code.

§ 2913 Case-by-Case Review for Pre-existing Multi-Party Commitments

(a) A local publicly owned electric utility may petition the Commission for an exemption from application of this chapter for covered procurements required under the terms of a contract or ownership agreement that was in place January 1, 2007. The Commission may exempt covered procurements from application of this chapter if the local publicly owned electric utility demonstrates that:
   (1) the covered procurements are required under the terms of the contract or ownership agreement; and
   (2) the contract or ownership agreement does not afford the local publicly owned electric utility applying for the exemption the opportunity to avoid making such covered procurements.

(b) Upon receipt of a petition under this section, the executive director shall review and make a recommendation to the full Commission on whether to grant the petition. The executive director may, within 14 days after receipt of a petition, notify the local publicly owned electric utility in writing of any additional information needed to review the petition. The Commission shall consider the executive director's recommendation and shall issue a decision on whether to grant the petition within 30 days after receipt of the complete petition.

NOTE: Authority cited: Sections 25213 and 25218(e), Public Resources Code; Section 8341, Public Utilities Code. Reference: Section 8341, Public Utilities Code.

Article 2. Provisions Applicable to Powerplants Under 10 MW (Reserved)

[redacted]

From: Jerry.Salamy@CH2M.com
Sent: Thursday, March 20, 2014 11:51 AM
To: CPerri@aqmd.gov; stephen.okane@AES.com
Cc: JYee@aqmd.gov; Elyse.Engel@ch2m.com; Robert.Mason@CH2M.com
Subject: RE: AES HBEP SCR and CO Catalyst Manufacturers
Attachments: AES_HBEP_Forms_400-E-5-03-20-14.pdf

Chris,

Attached are the revised Form 400-E-5 for the SCR/Ox Cats. Please let me know if you require any additional information.

Thanks,

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

From: Chris Perri [mailto:CPerri@aqmd.gov]
Sent: Wednesday, March 12, 2014 11:19 AM
To: Salamy, Jerry/SAC; Stephen O'Kane
Cc: John Yee
Subject: SCR and CO Catalyst Manufacturers

Hi Jerry/Stephen

Could you please re-submit Forms 400-E-5 for each SCR with the new SCR and CO catalyst manufacturers? (also update any other information that has changed on that form)

Thanks,

Chris

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): AES Huntington Beach, LLC

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115389

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): 21730 Newland Street, Huntington Beach, CA 92646

(•) Fixed Location ( ) Various Locations

Section B - Equipment Description

Selective Catalytic Reduction (SCR)

SCR Catalyst

Manufacturer: Topsoe — Catalyst Active Material: Titanium/Vanadium/Tungsten

Model Number: DNX GT-201 or equivalent — Type: homogeneous honeycomb

Size of Each Layer or Module: L: 10 ft 2 in W: 2 ft 1.25 in H: 6 ft 7 in

No. of Layers or Modules: 20 — Total Volume: 140.8 cu. ft. — Total Weight: _____ lbs.

Reducing Agent

( ) Urea ( ) Anhydrous Ammonia (•) Aqueous Ammonia 19.00 % — Injection Rate: 256.3 lb/hr

Reducing Agent Storage*

Diameter: 6 ft _____ in. — Height: 28 ft 5 in. — Capacity: 24000 gal

Pressure Setting: 50 psia — * A separate permit may be needed for the storage equipment.

Space Velocity

Gas Flow Rate/Catalyst Volume: 40450 per hour

Area Velocity

Gas Flow Rate/Wetted Catalyst Surface Area: 85113 ft/hr

Manufacturer's Guarantee

NOx: 2.0 ppm $\%O_2$: 15.00 — NOx: _____ gm/bhp-hr — Ammonia Slip: 5 ppm @ 15.00 $\%O_2$

Catalyst Life

6 years (expected)

Cost

Capital Cost: $506,000.00 — Installation Cost: $50,000.00 — Catalyst Replacement Cost: _____

Oxidation Catalyst

Oxidation Catalyst

Manufacturer: Johnson Matthey — Catalyst Active Material: Palladium

Model Number: SC42 or equivalent — Type: homogeneous honeycomb

Size of Each Layer or Module: L: 2 ft 2 in W: _____ ft 2 in H: 2 ft 2 in.

No. of Layers or Modules: 261 — Total Volume: 2655 cu. ft. — Total Weight: _____ lbs.

Space Velocity

Gas Flow Rate/Catalyst Volume: 42918 per hour

Manufacturer's Guarantee

VOC: 2.0 ppm VOC: _____ gm/bhp-hr $\%O_2$: 15.00

CO: 2.0 ppm CO: _____ gm/bhp-hr $\%O_2$: 15.00

Catalyst Life

3 years (expected)

Cost

Capital Cost: $595,000.00 — Installation Cost: $45,000.00 — Catalyst Replacement Cost: $148,750.00

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (cont.)

Ammonia Catalyst

Ammonia Catalyst	Manufacturer: _____ Catalyst Active Material: _____ Model Number: _____ Type: _____ Size of Each Layer or Module: L: ____ ft ____ in. W: ____ ft ____ in. H: ____ ft ____ in. No. of Layers or Modules: _____ Total Volume: _____ cu. ft. Total Weight: _____ lbs.
Space Velocity	Gas Flow Rate/Catalyst Volume: _____ per hour
Manufacturer's Guarantee	NH_3: _____ ppm $\%O_2$: _____
Catalyst Life	_____ years (expected)
Cost	Capital Cost: _____ Installation Cost: _____ Catalyst Replacement Cost: _____

Section C - Operation Information

Operating Temperature	Minimum Inlet Temperature: 400 °F (from cold start) Maximum Temperature: 700 °F Warm-up Time: 1 hr. 30 min. (maximum)
Operating Schedule	Normal: 24 hours/day 7 days/week 40 weeks/yr Maximum: 24 hours/day 7 days/week 52 weeks/yr

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info	Signature: [signature] Date: 03/18/2014 Title: Manager Company Name: AES Huntington Beach L	Name: Stephen O'Kane Phone #: (562) 493-7840 Fax #: (562) 493-7737 Email: stephen.okane@AES.com
Contact Info	Name: Same as Preparer Title: Company Name:	Phone #: Fax #: Email:

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): AES Huntington Beach, LLC

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115389

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): 21730 Newland Street, Huntington Beach, CA 92646

(•) Fixed Location ( ) Various Locations

Section B - Equipment Description

Selective Catalytic Reduction (SCR)

SCR Catalyst

Manufacturer: Topsoe — Catalyst Active Material: Titanium/Vanadium/Tungsten

Model Number: DNX GT-201 or equivalent — Type: homogeneous honeycomb

Size of Each Layer or Module: L: 10 ft 2 in W: 2 ft 1.25 in H: 6 ft 7 in.

No. of Layers or Modules: 20 — Total Volume: 140.8 cu. ft. — Total Weight: ____ lbs.

Reducing Agent

( ) Urea ( ) Anhydrous Ammonia (•) Aqueous Ammonia 19.00 % — Injection Rate: 256.3 lb/hr

Reducing Agent Storage*

Diameter: 6 ft ____ in. — Height: 28 ft 5 in. — Capacity: 24000 gal

Pressure Setting: 50 psia — * A separate permit may be needed for the storage equipment.

Space Velocity

Gas Flow Rate/Catalyst Volume: 40450 per hour

Area Velocity

Gas Flow Rate/Wetted Catalyst Surface Area: 85113 ft/hr

Manufacturer's Guarantee

NOx: 2.0 ppm $\%O_2$: 15.00 — NOx: ____ gm/bhp-hr — Ammonia Slip: 5 ppm @ 15.00 $\%O_2$

Catalyst Life

6 years (expected)

Cost

Capital Cost: $506,000.00 — Installation Cost: $50,000.00 — Catalyst Replacement Cost: ____

Oxidation Catalyst

Oxidation Catalyst

Manufacturer: Johnson Matthey — Catalyst Active Material: Palladium

Model Number: SC42 or equivalent — Type: homogeneous honeycomb

Size of Each Layer or Module: L: 2 ft 2 in W: ____ ft 2 in H: 2 ft 2 in.

No. of Layers or Modules: 261 — Total Volume: 2655 cu. ft. — Total Weight: ____ lbs.

Space Velocity

Gas Flow Rate/Catalyst Volume: 42918 per hour

Manufacturer's Guarantee

VOC: 2.0 ppm VOC: ____ gm/bhp-hr $\%O_2$: 15.00

CO: 2.0 ppm CO: ____ gm/bhp-hr $\%O_2$: 15.00

Catalyst Life

3 years (expected)

Cost

Capital Cost: $595,000.00 — Installation Cost: $45,000.00 — Catalyst Replacement Cost: $148,750.00

© South Coast Air Quality Management District, Form 400-E-5 (2009.04)

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (cont.)

Ammonia Catalyst

Ammonia Catalyst	Manufacturer: _____ Catalyst Active Material: _____ Model Number: _____ Type: _____ Size of Each Layer or Module: L: _____ ft. _____ in. W: _____ ft. _____ in. H: _____ ft. _____ in. No. of Layers or Modules: _____ Total Volume: _____ cu. ft. Total Weight: _____ lbs.
Space Velocity	Gas Flow Rate/Catalyst Volume: _____ per hour
Manufacturer's Guarantee	NH_3: _____ ppm $\%O_2$: _____
Catalyst Life	_____ years (expected)
Cost	Capital Cost: _____ Installation Cost: _____ Catalyst Replacement Cost: _____

Section C - Operation Information

Operating Temperature	Minimum Inlet Temperature: 400 °F (from cold start) Maximum Temperature: 700 °F Warm-up Time: 1 hr. 30 min. (maximum)
Operating Schedule	Normal: 24 hours/day 7 days/week 40 weeks/yr Maximum: 24 hours/day 7 days/week 52 weeks/yr

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info	Signature: [signature] Date: 05/18/2014 Title: Manager Company Name: AES Huntington Beach L	Name: Stephen O'Kane Phone #: (562) 493-7840 Fax #: (562) 493-7737 Email: stephen.okane@AES.com
Contact Info	Name: Same as Preparer Title: Company Name:	Phone #: Fax #: Email:

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

© South Coast Air Quality Management District. Form 400-E-5 (2009.04)

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): AES Huntington Beach, LLC

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115389

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): 21730 Newland Street, Huntington Beach, CA 92646

(•) Fixed Location ( ) Various Locations

Section B - Equipment Description

Selective Catalytic Reduction (SCR)

SCR Catalyst

Manufacturer: Topsoe
Catalyst Active Material: Titanium/Vanadium/Tungsten
Model Number: DNX GT-201 or equivalent
Type: homogeneous honeycomb
Size of Each Layer or Module: L: 10 ft 2 in W: 2 ft 1.25 in H: 6 ft 7 in
No. of Layers or Modules: 20
Total Volume: 140.8 cu ft
Total Weight: ____ lbs.

Reducing Agent

( ) Urea ( ) Anhydrous Ammonia (•) Aqueous Ammonia 19.00 %
Injection Rate: 256.3 lb/hr

Reducing Agent Storage*

Diameter: 6 ft ____ in
Height: 28 ft 5 in
Capacity: 24000 gal
Pressure Setting: 50 psia
* A separate permit may be needed for the storage equipment.

Space Velocity

Gas Flow Rate/Catalyst Volume: 40450 per hour

Area Velocity

Gas Flow Rate/Wetted Catalyst Surface Area: 85113 ft/hr

Manufacturer's Guarantee

NOx: 2.0 ppm $\%O_2$: 15.00
NOx: ____ gm/bhp-hr
Ammonia Slip: 5 ppm @ 15.00 $\%O_2$

Catalyst Life

6 years (expected)

Cost

Capital Cost: $506,000.00
Installation Cost: $50,000.00
Catalyst Replacement Cost: ____

Oxidation Catalyst

Oxidation Catalyst

Manufacturer: Johnson Matthey
Catalyst Active Material: Palladium
Model Number: SC42 or equivalent
Type: homogeneous honeycomb
Size of Each Layer or Module: L: 2 ft 2 in W: ____ ft 2 in H: 2 ft 2 in
No. of Layers or Modules: 261
Total Volume: 2655 cu. ft
Total Weight: ____ lbs.

Space Velocity

Gas Flow Rate/Catalyst Volume: 42918 per hour

Manufacturer's Guarantee

VOC: 2.0 ppm VOC: ____ gm/bhp-hr $\%O_2$: 15.00
CO: 2.0 ppm CO: ____ gm/bhp-hr $\%O_2$: 15.00

Catalyst Life

3 years (expected)

Cost

Capital Cost: $595,000.00
Installation Cost: $45,000.00
Catalyst Replacement Cost: $148,750.00

© South Coast Air Quality Management District, Form 400-E-5 (2009.04)

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (cont.)

Ammonia Catalyst

Ammonia Catalyst

Manufacturer: _____ Catalyst Active Material: _____

Model Number: _____ Type: _____

Size of Each Layer or Module: L: _____ ft. _____ in. W: _____ ft. _____ in. H: _____ ft. _____ in.

No. of Layers or Modules: _____ Total Volume: _____ cu. ft. Total Weight: _____ lbs.

Space Velocity

Gas Flow Rate/Catalyst Volume: _____ per hour

Manufacturer's Guarantee

NH_3: _____ ppm $\%O_2$: _____

Catalyst Life

_____ years (expected)

Cost

Capital Cost: _____ Installation Cost: _____ Catalyst Replacement Cost: _____

Section C - Operation Information

Operating Temperature

Minimum Inlet Temperature: 400 °F (from cold start) Maximum Temperature: 700 °F

Warm-up Time: 1 hr. 30 min. (maximum)

Operating Schedule

Normal: 24 hours/day 7 days/week 40 weeks/yr

Maximum: 24 hours/day 7 days/week 52 weeks/yr

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info

Signature: _____ Date: 03/18/04

Title: Manager Company Name: AES Huntington Beach L

Name: Stephen O'Kane

Phone #: (562) 493-7840 Fax #: (562) 493-7737

Email: stephen.okane@AES.com

Contact Info

Name: Same as Preparer

Title: _____ Company Name: _____

Phone #: _____ Fax #: _____

Email: _____

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

© South Coast Air Quality Management District, Form 400-E-5 (2009.04)

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): AES Huntington Beach, LLC

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115389

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): 21730 Newland Street, Huntington Beach, CA 92646 (•) Fixed Location ( ) Various Locations

Section B - Equipment Description

Selective Catalytic Reduction (SCR)

SCR Catalyst

Manufacturer: Topsoe — Catalyst Active Material: Titanium/Vanadium/Tungsten

Model Number: DNX GT-201 or equivalent — Type: homogeneous honeycomb

Size of Each Layer or Module: L: 10 ft 2 in. W: 2 ft 1.25 in. H: 6 ft 7 in.

No. of Layers or Modules: 20 — Total Volume: 140.8 cu. ft — Total Weight: _____ lbs.

Reducing Agent

( ) Urea ( ) Anhydrous Ammonia (•) Aqueous Ammonia 19.00 % — Injection Rate: 256.3 lb/hr

Reducing Agent Storage*

Diameter: 6 ft _____ in. — Height: 28 ft 5 in. — Capacity: 24000 gal

Pressure Setting: 50 psia — * A separate permit may be needed for the storage equipment.

Space Velocity

Gas Flow Rate/Catalyst Volume: 40450 per hour

Area Velocity

Gas Flow Rate/Wetted Catalyst Surface Area: 85113 ft/hr

Manufacturer's Guarantee

NOx: 2.0 ppm $\%O_2$: 15.00 — NOx: _____ gm/bhp-hr — Ammonia Slip: 5 ppm @ 15.00 $\%O_2$

Catalyst Life

6 years (expected)

Cost

Capital Cost: $506,000.00 — Installation Cost: $50,000.00 — Catalyst Replacement Cost: _____

Oxidation Catalyst

Oxidation Catalyst

Manufacturer: Johnson Matthey — Catalyst Active Material: Palladium

Model Number: SC42 or equivalent — Type: homogeneous honeycomb

Size of Each Layer or Module: L: 2 ft 2 in. W: _____ ft 2 in. H: 2 ft 2 in.

No. of Layers or Modules: 261 — Total Volume: 2655 cu. ft — Total Weight: _____ lbs.

Space Velocity

Gas Flow Rate/Catalyst Volume: 42918 per hour

Manufacturer's Guarantee

VOC: 2.0 ppm — VOC: _____ gm/bhp-hr — $\%O_2$: 15.00

CO: 2.0 ppm — CO: _____ gm/bhp-hr — $\%O_2$: 15.00

Catalyst Life

3 years (expected)

Cost

Capital Cost: $595,000.00 — Installation Cost: $45,000.00 — Catalyst Replacement Cost: $148,750.00

© South Coast Air Quality Management District, Form 400-E-5 (2009.04)

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (cont.)

Ammonia Catalyst

Ammonia Catalyst	Manufacturer: _____ Catalyst Active Material: _____ Model Number: _____ Type: _____ Size of Each Layer or Module: L: _____ ft. _____ in. W: _____ ft. _____ in. H: _____ ft. _____ in. No. of Layers or Modules: _____ Total Volume: _____ cu. ft. Total Weight: _____ lbs.
Space Velocity	Gas Flow Rate/Catalyst Volume: _____ per hour
Manufacturer's Guarantee	NH_3: _____ ppm $\%O_2$: _____
Catalyst Life	_____ years (expected)
Cost	Capital Cost: _____ Installation Cost: _____ Catalyst Replacement Cost: _____

Section C - Operation Information

Operating Temperature	Minimum Inlet Temperature: 400 °F (from cold start) Maximum Temperature: 700 °F Warm-up Time: 1 hr. 30 min. (maximum)
Operating Schedule	Normal: 24 hours/day 7 days/week 40 weeks/yr Maximum: 24 hours/day 7 days/week 52 weeks/yr

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info	Signature: [signature] Date: 03/18/2014 Title: Manager Company Name: AES Huntington Beach L	Name: Stephen O'Kane Phone #: (562) 493-7840 Fax #: (562) 493-7737 Email: stephen.okane@AES.com
Contact Info	Name: Same as Preparer Title: Company Name:	Phone #: Fax #: Email:

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

© South Coast Air Quality Management District, Form 400-E-5 (2009 04)

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): AES Huntington Beach, LLC

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115389

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): 21730 Newland Street, Huntington Beach, CA 92646

(•) Fixed Location ( ) Various Locations

Section B - Equipment Description

Selective Catalytic Reduction (SCR)

SCR Catalyst

Manufacturer: Topsoe — Catalyst Active Material: Titanium/Vanadium/Tungsten

Model Number: DNX GT-201 or equivalent — Type: homogeneous honeycomb

Size of Each Layer or Module: L: 10 ft 2 in. W: 2 ft 1.25 in. H: 6 ft 7 in.

No. of Layers or Modules: 20 — Total Volume: 140.8 cu. ft. — Total Weight: _____ lbs.

Reducing Agent

( ) Urea ( ) Anhydrous Ammonia (•) Aqueous Ammonia 19.00 % — Injection Rate: 256.3 lb/hr

Reducing Agent Storage*

Diameter: 6 ft _____ in. — Height: 28 ft 5 in. — Capacity: 24000 gal

Pressure Setting: 50 psia — * A separate permit may be needed for the storage equipment.

Space Velocity

Gas Flow Rate/Catalyst Volume: 40450 per hour

Area Velocity

Gas Flow Rate/Wetted Catalyst Surface Area: 85113 ft/hr

Manufacturer's Guarantee

NOx: 2.0 ppm $\%O_2$: 15.00 — NOx: _____ gm/bhp-hr — Ammonia Slip: 5 ppm @ 15.00 $\%O_2$

Catalyst Life

6 years (expected)

Cost

Capital Cost: $506,000.00 — Installation Cost: $50,000.00 — Catalyst Replacement Cost: _____

Oxidation Catalyst

Oxidation Catalyst

Manufacturer: Johnson Matthey — Catalyst Active Material: Palladium

Model Number: SC42 or equivalent — Type: homogeneous honeycomb

Size of Each Layer or Module: L: 2 ft 2 in. W: _____ ft 2 in. H: 2 ft 2 in.

No. of Layers or Modules: 261 — Total Volume: 2655 cu. ft. — Total Weight: _____ lbs

Space Velocity

Gas Flow Rate/Catalyst Volume: 42918 per hour

Manufacturer's Guarantee

VOC: 2.0 ppm VOC: _____ gm/bhp-hr $\%O_2$: 15.00

CO: 2.0 ppm CO: _____ gm/bhp-hr $\%O_2$: 15.00

Catalyst Life

3 years (expected)

Cost

Capital Cost: $595,000.00 — Installation Cost: $45,000.00 — Catalyst Replacement Cost: $148,750.00

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (cont.)

Ammonia Catalyst

Ammonia Catalyst	Manufacturer: _____ Catalyst Active Material: _____ Model Number: _____ Type: _____ Size of Each Layer or Module: L: _____ ft. _____ in. W: _____ ft. _____ in. H: _____ ft. _____ in. No. of Layers or Modules: _____ Total Volume: _____ cu. ft. Total Weight: _____ lbs.
Space Velocity	Gas Flow Rate/Catalyst Volume: _____ per hour
Manufacturer's Guarantee	NH_3: _____ ppm $\%O_2$: _____
Catalyst Life	_____ years (expected)
Cost	Capital Cost: _____ Installation Cost: _____ Catalyst Replacement Cost: _____

Section C - Operation Information

Operating Temperature	Minimum Inlet Temperature: 400 °F (from cold start) Maximum Temperature: 700 °F Warm-up Time: 1 hr. 30 min. (maximum)
Operating Schedule	Normal: 24 hours/day 7 days/week 40 weeks/yr Maximum: 24 hours/day 7 days/week 52 weeks/yr

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info	Signature: [signature] Date: 03/18/2014 Title: Manager Company Name: AES Huntington Beach L	Name: Stephen O'Kane Phone #: (562) 493-7840 Fax #: (562) 493-7737 Email: stephen.okane@AES.com
Contact Info	Name: Same as Preparer Title: Company Name:	Phone #: Fax #: Email:

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): AES Huntington Beach, LLC

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115389

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): 21730 Newland Street, Huntington Beach, CA 92646 (◉ Fixed Location ○ Various Locations)

Section B - Equipment Description

Selective Catalytic Reduction (SCR)

SCR Catalyst

Manufacturer: Topsoe — Catalyst Active Material: Titanium/Vanadium/Tungsten

Model Number: DNX GT-201 or equivalent — Type: homogeneous honeycomb

Size of Each Layer or Module: L: 10 ft 2 in. W: 2 ft 1.25 in. H: 6 ft 7 in.

No. of Layers or Modules: 20 — Total Volume: 140.8 cu. ft. — Total Weight: _____ lbs.

Reducing Agent

○ Urea ○ Anhydrous Ammonia ◉ Aqueous Ammonia 19.00 % — Injection Rate: 256.3 lb/hr

Reducing Agent Storage*

Diameter: 6 ft _____ in. — Height: 28 ft 5 in. — Capacity: 24000 gal

Pressure Setting: 50 psia — * A separate permit may be needed for the storage equipment.

Space Velocity

Gas Flow Rate/Catalyst Volume: 40450 per hour

Area Velocity

Gas Flow Rate/Wetted Catalyst Surface Area: 85113 ft/hr

Manufacturer's Guarantee

NOx: 2.0 ppm $\%O_2$: 15.00 — NOx: _____ gm/bhp-hr — Ammonia Slip: 5 ppm @ 15.00 $\%O_2$

Catalyst Life

6 years (expected)

Cost

Capital Cost: $506,000.00 — Installation Cost: $50,000.00 — Catalyst Replacement Cost: _____

Oxidation Catalyst

Oxidation Catalyst

Manufacturer: Johnson Matthey — Catalyst Active Material: Palladium

Model Number: SC42 or equivalent — Type: homogeneous honeycomb

Size of Each Layer or Module: L: 2 ft 2 in. W: _____ ft 2 in. H: 2 ft 2 in.

No. of Layers or Modules: 261 — Total Volume: 2655 cu. ft. — Total Weight: _____ lbs.

Space Velocity

Gas Flow Rate/Catalyst Volume: 42918 per hour

Manufacturer's Guarantee

VOC: 2.0 ppm VOC: _____ gm/bhp-hr $\%O_2$: 15.00

CO: 2.0 ppm CO: _____ gm/bhp-hr $\%O_2$: 15.00

Catalyst Life

3 years (expected)

Cost

Capital Cost: $595,000.00 — Installation Cost: $45,000.00 — Catalyst Replacement Cost: $148,750.00

© South Coast Air Quality Management District, Form 400-E-5 (2009.04)

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (cont.)

Ammonia Catalyst

Ammonia Catalyst	Manufacturer: _____ Catalyst Active Material: _____ Model Number: _____ Type: _____ Size of Each Layer or Module: L: _____ ft. _____ in. W: _____ ft. _____ in. H: _____ ft. _____ in. No. of Layers or Modules: _____ Total Volume: _____ cu. ft. Total Weight: _____ lbs.
Space Velocity	Gas Flow Rate/Catalyst Volume: _____ per hour
Manufacturer's Guarantee	NH_3: _____ ppm $\%O_2$: _____
Catalyst Life	_____ years (expected)
Cost	Capital Cost: _____ Installation Cost: _____ Catalyst Replacement Cost: _____

Section C - Operation Information

Operating Temperature	Minimum Inlet Temperature: 400 °F (from cold start) Maximum Temperature: 700 °F Warm-up Time: 1 hr. 30 min. (maximum)
Operating Schedule	Normal: 24 hours/day 7 days/week 40 weeks/yr Maximum: 24 hours/day 7 days/week 52 weeks/yr

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info	Signature: S O'Kane Date: 03/18/2024 Title: Manager Company Name: AES Huntington Beach L	Name: Stephen O'Kane Phone #: (562) 493-7840 Fax #: (562) 493-7737 Email: stephen.okane@AES.com
Contact Info	Name: Same as Preparer Title: Company Name:	Phone #: Fax #: Email:

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

[redacted]

From: Jerry.Salamy@CH2M.com
Sent: Thursday, March 20, 2014 11:06 AM
To: CPerri@aqmd.gov
Cc: stephen.okane@aes.com; Elyse.Engel@ch2m.com; Robert.Mason@CH2M.com
Subject: HBEP NPS Documentation
Attachments: NPS_ AES Huntington Beach Energy Projects_Recommedation_6-5-13.pdf

Hi Chris,

Attached is the NPS correspondence. I will be sending the revised Form 400-E-5 for the SCR/Ox Cats to you shortly.

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

From: Chris Perri [mailto:CPerri@aqmd.gov]
Sent: Wednesday, March 19, 2014 10:41 AM
To: Salamy, Jerry/SAC
Subject:

Hi Jerry,

Could you please forward me the June 5, 2013 correspondence from National Park Service that you mentioned in your comment letter. Neither I nor John were able to locate a copy of this email.

Thanks,

Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
(909) 396-2696

From: Notar, John
To: Salamy, Jerry/SAC
Cc: tonnie_cummings@nps.gov; Don_Shepherd@nps.gov; John Notar
Subject: Re: AES Huntington Beach Energy Projects
Date: Wednesday, June 05, 2013 4:39:46 PM

Jerry: thanks for the information. The National Park Service will screen the AES Southland Development LLC (AES) on the Huntington Beach Energy Project (HBEP) located in Huntington Beach, California. for review for AQRV impacts at Joshua Tree NP based on the Q/D value of 3.3. You may forward this to South Coast AQMD. Can you tell me the CO2 emissions, as I said we are just tracking greenhouse gas emissions. Please CC Don Shepherd with this information.
Thanks
John Notar

On Wed, Jun 5, 2013 at 5:26 PM, <Jerry.Salamy@ch2m.com> wrote:

> John,
>
> The 7.0 Q/D value is for the Cucamonga Wilderness Area (FS) which is 69 km from HBEP. The nearest NPS Class I area is Joshua Tree National Park at 145 km from HBEP. This would equate to a Q/D of 3.3 (483 TPY/145) for Joshua Tree.
>
> Regarding BACT levels, we proposed the following:
>
> 2 ppm at 15% oxygen for NOx and CO
>
> 1 ppm at 15% oxygen for VOC
>
> Low sulfur natural gas fuel for SO2 and PM/PM10/PM2.5
>
> *Jerry Salamy*
> *Principal Project Manager*
> *CH2M HILL/Sacramento*
> *Phone 916-286-0207*
> *Fax 916-614-3407*
> *Cell Phone 916-769-8919*
>
> ---
>
> **From:** Notar, John [mailto:john_notar@nps.gov]
> **Sent:** Wednesday, June 05, 2013 4:11 PM
> **To:** Salamy, Jerry/SAC
> **Cc:** tonnie_cummings@nps.gov; Don Shepherd; John Notar
> **Subject:** Re: AES Huntington Beach Energy Projects

Jerry: thanks for getting back to me. Is 7.0 for the the closest NPS unit (not US Forest Service) you measured for? I assume the NOx emissions will be permitted at 2.0 ppm? Is that true? We are collecting information on controls on NG fired power plants.

thanks

John

John Notar
National Park Service
Air Resources Division
12795 W. Alameda Pkwy.
Lakewood, CO 80228
Phone: 303-969-2079
Fax: 303-969-2822
E-Mail: john_notar@nps.gov

On Wed, Jun 5, 2013 at 4:58 PM, <Jerry.Salamy@ch2m.com> wrote:

John,

From the application, we calculated the Q/D value using the FLAG 2010 guidance as 7.0.

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

From: Notar, John [mailto:john_notar@nps.gov]
Sent: Wednesday, June 05, 2013 3:53 PM
To: Salamy, Jerry/SAC
Cc: Tonnie Cummings; John Notar
Subject: Re: AES Huntington Beach Energy Projects

Jerry: as far as I can determine NPS has not seen the PSD application for this project.

Do you know what the Q/D value is greater than 10.0?

In the FLM's FLAG 2010 guidance it describes the Q/D calculation. If the Q/D is less than 10.0 NPS usually screens the project out for AQRV analyses. Q is the sum of emissions based on the maximum permitted 24-hour emission rates of

SO2, SO4, NOx, all species of PM-coarse,fine, condensables and elemental carbon. Convert the 24 hour summed emissions into a total tons per year and then divide (D) distance in kilometers.

Before you email or hard mail the application can you get back to me with the Q/D value .

Our email can accept 10 mb size files. If this is too small you can mail it to me at the address below.

thanks

John Notar

On Wed, Jun 5, 2013 at 4:27 PM, <Jerry.Salamy@ch2m.com> wrote:

Mr. Notar,

I am working with the AES Southland Development LLC (AES) on the Huntington Beach Energy Project (HBEP) located in Huntington Beach, California. AES submitted PSD permit application for HBEP to the South Coast Air Quality Management District (District) in June 2012 and EPA Region 9 in September 2012 (the EPA has subsequently delegated PSD review to the District in January 2013). The District deemed AES's PSD permit application conditionally complete in July 2012, pending receipt of additional data. Per District Rule 1703, the South Coast Air Quality Management District is required to provide a copy of the complete application (within 10 days after being deemed complete by the District) to the EPA, the Federal Land Manager for any Class I area located within 100 km of the source, and to the federal official charged with direct responsibility for management of any lands within the Class I area. The project site has several Class I areas within the 100 km. Therefore, the purpose of this email is determine if the National Park Service has received a copy of HBEP's PSD application for review and to provide any materials the Service needs to assess project impacts on federal lands.

As a note, I will also be contacting Mr. McCorison at the Forest Service with a similar request.

Please email or call with any questions you may have.

Thanks,

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

[redacted]

From: CPerri@aqmd.gov
Sent: Friday, January 24, 2014 9:21 AM
To: stephen.okane@AES.com
Cc: ALee@aqmd.gov; ctupac@aqmd.gov; JYee@aqmd.gov; Jerry.Salamy@CH2M.com
Subject: RE: MW condition

Hi Stephen,

Thanks for the response. We will make the requested change to the language of condition C1.9, and leave condition C1.10 as proposed.

Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
(909) 396-2696

From: Stephen O'Kane [mailto:stephen.okane@AES.com]
Sent: Thursday, January 23, 2014 7:26 PM
To: Chris Perri
Cc: Andrew Lee; Charles Tupac; John Yee; Jerry.Salamy@CH2M.com
Subject: RE: MW condition

Chris,

My apologies for the delay in responding, I needed to confer with both our electrical engineer and the system operator for the appropriate location for measuring net generation. We have no objection to the proposed permit condition for monitoring and recording net and gross generation. Our only requested change is where we measure and monitor the net capacity of the generating units as this should be consistent with the CAISO meters. While there are four generators per 3-on-1 power block, these generators are connected to a single bus bar for interconnection into the SCE owned (and CAISO operated) switchyard. So there will be only two net generating metering points for the HBEP. There will be one primary and one back-up CAISO inspected and approved revenue (net power) meter for each of the 2 proposed power blocks. The revenue meters and their installation shall comply with the revenue metering protocols and requirements of the CAISO and SCE and will be consistent with ANSI Standard No. C12 or equivalent. Therefore, our proposed revision to C1.9 is as follows:

The operator shall limit the power output of the plant to no more than 939 MWs

The 939 MW limit is based on the net power output.

The net electrical output shall be measured at the breaker of the transmission system interconnection point in the generation switchyard. The monitoring equipment shall meet ANSI Standard No. C12 or equivalent, and have an accuracy of +/-0.2 percent.

The net electrical output from each step-up transformers shall be recorded at the CEMS DAS

The operator shall maintain records, for a minimum of five years, in a manner approved by the SCAQMD to demonstrate compliance with this condition.

I also left you a voice mail today explaining the delay. If you have any questions or concerns please give me a call and we can discuss.

Stephen O'Kane

From: Chris Perri [mailto:CPerri@aqmd.gov]
Sent: Friday, January 17, 2014 4:30 PM
To: Stephen O'Kane
Cc: Andrew Lee; Charles Tupac; John Yee; Jerry.Salamy@CH2M.com
Subject: MW condition

Stephen,

Following are our proposed draft conditions pertaining to the MW output limitation. Please let us know if you have any questions.

C1.9
The operator shall limit the power output of the plant to no more than 939 MWs

The 939 MW limit is based on the net power output.

The net electrical output shall be measured at the each of the 8 step-up electrical transformers. The monitoring equipment shall meet ANSI Standard No. C12 or equivalent, and have an accuracy of +/-0.2 percent.

The net electrical output from each step-up transformers shall be recorded at the CEMS DAS

The operator shall maintain records, for a minimum of five years, in a manner approved by the SCAQMD to demonstrate compliance with this condition.

C1.10
The operator shall limit the power output of the plant to no more than 972 MWs

The 972 MW limit is based on the gross power output.

The gross electrical output shall be measured at the each of the 8 generators. The monitoring equipment shall meet ANSI Standard No. C12 or equivalent, and have an accuracy of +/-0.2 percent.

The gross electrical output from generators shall be recorded at the CEMS DAS

The operator shall maintain records, for a minimum of five years, in a manner approved by the SCAQMD to demonstrate compliance with this condition.

Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
(909) 396-2696

This communication is for use by the intended recipient and contains information that may be privileged, confidential or copyrighted under law. If you are not the intended recipient, you are hereby formally notified that any use, copying or distribution of this e-Mail, in whole or in part, is strictly prohibited. Please notify the sender by return e-Mail and delete this e-Mail from your system. Unless explicitly and conspicuously stated in the subject matter of the above e-Mail, this e-Mail does not constitute a contract offer, a contract amendment, or an acceptance of a contract offer. This e-Mail does not constitute consent to the use of sender's contact information for direct marketing purposes or for transfers of data to third parties.

[redacted]

From: CPerri@aqmd.gov
Sent: Friday, January 17, 2014 4:30 PM
To: stephen.okane@AES.com
Cc: ALee@aqmd.gov; ctupac@aqmd.gov; JYee@aqmd.gov; Jerry.Salamy@CH2M.com
Subject: MW condition

Stephen,

Following are our proposed draft conditions pertaining to the MW output limitation. Please let us know if you have any questions.

C1.9
The operator shall limit the power output of the plant to no more than 939 MWs

The 939 MW limit is based on the net power output.

The net electrical output shall be measured at the each of the 8 step-up electrical transformers. The monitoring equipment shall meet ANSI Standard No. C12 or equivalent, and have an accuracy of +/-0.2 percent.

The net electrical output from each step-up transformers shall be recorded at the CEMS DAS

The operator shall maintain records, for a minimum of five years, in a manner approved by the SCAQMD to demonstrate compliance with this condition.

C1.10
The operator shall limit the power output of the plant to no more than 972 MWs

The 972 MW limit is based on the gross power output.

The gross electrical output shall be measured at the each of the 8 generators. The monitoring equipment shall meet ANSI Standard No. C12 or equivalent, and have an accuracy of +/-0.2 percent.

The gross electrical output from generators shall be recorded at the CEMS DAS

The operator shall maintain records, for a minimum of five years, in a manner approved by the SCAQMD to demonstrate compliance with this condition.

Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
(909) 396-2696

[redacted]

From: Jerry.Salamy@CH2M.com
Sent: Friday, January 17, 2014 1:16 PM
To: CPerri@aqmd.gov; stephen.okane@AES.com
Cc: ALee@aqmd.gov; ctupac@aqmd.gov; JYee@aqmd.gov
Subject: RE: AES HB Plant Output Monitoring

Hi Chris,

Stephen asked me to send this response to you regarding the megawatt/megawatt-hour monitoring methodology.

HBEP's Megawatt/Megawatt-Hour Monitoring Methodology
The monitoring of HBEP's gross electrical output will occur at the electrical generator output terminals of each of the six combustion turbines and two steam turbines. The generator output monitors are incorporated into the manufacturer's system control packages. Each combustion turbine and steam turbine will have a separate system control package that interconnects with HBEP's digital control system (DCS) and the continuous emissions monitoring systems (CEMS) data acquisition system (DAS/RTU). The electrical output monitors will likely be a solid-state polyphase electricity meter (ANSI Standard No. C12) or equivalent, with an accuracy of +/-0.2 percent. The California Independent System Operator has a specification generators must comply with for monitoring gross and net electrical output (http://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Metering). The monitors are calibrated and certified by the manufacturer and require no routine maintenance or calibration and are not prone to failure.

The monitoring and recording of electrical output is required by the USEPA's Acid Rain regulations. The existing Huntington Beach Generating Station currently reports electrical output to the USEPA's Air Market's Program, which can be download from this link http://ampd.epa.gov/ampd/ .

The net electrical production distributed to the electrical grid will be monitored at the each step-up electrical transformer (HBEP has one step up transformer for each of the 8 electrical generators). The high side of the step-up transformers are the last electrical connection between HBEP and SCE's switchyard, and are considered the point-of-sale for produced electricity. The monitoring equipment at this location will also likely be solid-state meter (ANSI Standard No. C12) or equivalent, with an accuracy of +/-0.2 percent.

Both gross and net electrical monitoring systems will measure megawatts and megawatt-hours on an instantaneous basis. The instantaneous electrical output from each generator and step-up transformer will be transmitted to the HBEP CEMS DAS/RTU system for transmittal to the USEPA's Clean Air Market Program consistent with the Title IV Acid Rain regulations.

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

-----Original Message-----
From: Chris Perri [mailto:CPerri@aqmd.gov]
Sent: Thursday, January 16, 2014 1:19 PM

To: Stephen O'Kane
Cc: Andrew Lee; Charles Tupac; John Yee; Salamy, Jerry/SAC
Subject: RE: AES HB Plant Output Monitoring

I think because in this case we are basing our offsets on the restricted plant output and not maximum capacity, then yes we do want to get the specifics on the measuring and recording method.

Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
(909) 396-2696

-----Original Message-----
From: Stephen O'Kane [mailto:stephen.okane@AES.com]
Sent: Thursday, January 16, 2014 9:46 AM
To: Chris Perri
Cc: Andrew Lee; Charles Tupac; John Yee; Jerry.Salamy@CH2M.com
Subject: Re: AES HB Plant Output Monitoring

I suppose we can track the specs down but the requirements of Part 75 are not enough? This isn't a new concept or new type of condition.

And of course you will be consistent with permits already issued. Edison Mission Energy's Walnut Creek plant has the same transmission bottleneck and would have had the same requirement to demonstrate they would not generate more MW above the capacity that was retired.

Stephen O'Kane
562-508-0962
Sent from my iPhone

On Jan 16, 2014, at 9:30 AM, "Chris Perri" <CPerri@aqmd.gov<mailto:CPerri@aqmd.gov>> wrote:

Thanks Stephen. Yes we do plan to include a condition on the permit.

Could you elaborate a little further and provide info on what basis the output is measured, (instantaneous, minute by minute, hourly average, etc), what is the accuracy of the measuring device, is there a back up system in case the primary goes down, is the data recorded to the DAHS system, etc

Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
(909) 396-2696

From: Stephen O'Kane [mailto:stephen.okane@AES.com]
Sent: Wednesday, January 15, 2014 4:23 PM
To: Chris Perri
Cc: Andrew Lee; Charles Tupac; John Yee; Jerry.Salamy@CH2M.com<mailto:Jerry.Salamy@CH2M.com>
Subject: RE: AES HB Plant Output Monitoring

Chris,

Presumably the Part 75 monitoring and reporting requirements we already have would also remain in place. Gross electrical energy produced as measured at the generator terminals is monitored and recorded and provided to the EPA as part of the acid rain program. In addition, the net power output as delivered to the system operator is monitored at the switchyard. We would not be adverse to a permit requirement of monitoring and recording gross and net power output of the facility. We understand the concern. The interconnection of the Huntington Beach generating station presents a physical bottleneck to the system.

Stephen

From: Chris Perri [mailto:CPerri@aqmd.gov]
Sent: Wednesday, January 15, 2014 3:07 PM
To: Stephen O'Kane
Cc: Andrew Lee; Charles Tupac; John Yee
Subject: AES HB Plant Output Monitoring

Hi Stephen,

A question came up regarding the monitoring of the power output for the plant. We would like to get some details as to how the facility will monitor and record the plant MW's. Thanks

Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
(909) 396-2696

This communication is for use by the intended recipient and contains information that may be privileged, confidential or copyrighted under law. If you are not the intended recipient, you are hereby formally notified that any use, copying or distribution of this e-Mail, in whole or in part, is strictly prohibited. Please notify the sender by return e-Mail and delete this e-Mail from your system. Unless explicitly and conspicuously stated in the subject matter of the above e-Mail, this e-Mail does not constitute a contract offer, a contract amendment, or an acceptance of a contract offer. This e-Mail does not constitute consent to the use of sender's contact information for direct marketing purposes or for transfers of data to third parties. --

[redacted]

From: CPerri@aqmd.gov
Sent: Thursday, January 16, 2014 1:19 PM
To: stephen.okane@AES.com
Cc: ALee@aqmd.gov; ctupac@aqmd.gov; JYee@aqmd.gov; Jerry.Salamy@CH2M.com
Subject: RE: AES HB Plant Output Monitoring

I think because in this case we are basing our offsets on the restricted plant output and not maximum capacity, then yes we do want to get the specifics on the measuring and recording method.

Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
(909) 396-2696

-----Original Message-----
From: Stephen O'Kane [mailto:stephen.okane@AES.com]
Sent: Thursday, January 16, 2014 9:46 AM
To: Chris Perri
Cc: Andrew Lee; Charles Tupac; John Yee; Jerry.Salamy@CH2M.com
Subject: Re: AES HB Plant Output Monitoring

I suppose we can track the specs down but the requirements of Part 75 are not enough? This isn't a new concept or new type of condition.

And of course you will be consistent with permits already issued. Edison Mission Energy's Walnut Creek plant has the same transmission bottleneck and would have had the same requirement to demonstrate they would not generate more MW above the capacity that was retired.

Stephen O'Kane
562-508-0962
Sent from my iPhone

On Jan 16, 2014, at 9:30 AM, "Chris Perri" <CPerri@aqmd.gov<mailto:CPerri@aqmd.gov>> wrote:

Thanks Stephen. Yes we do plan to include a condition on the permit.

Could you elaborate a little further and provide info on what basis the output is measured, (instantaneous, minute by minute, hourly average, etc), what is the accuracy of the measuring device, is there a back up system in case the primary goes down, is the data recorded to the DAHS system, etc

Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
(909) 396-2696

From: Stephen O'Kane [mailto:stephen.okane@AES.com]
Sent: Wednesday, January 15, 2014 4:23 PM

To: Chris Perri
Cc: Andrew Lee; Charles Tupac; John Yee; Jerry.Salamy@CH2M.com<mailto:Jerry.Salamy@CH2M.com>
Subject: RE: AES HB Plant Output Monitoring

Chris,

Presumably the Part 75 monitoring and reporting requirements we already have would also remain in place. Gross electrical energy produced as measured at the generator terminals is monitored and recorded and provided to the EPA as part of the acid rain program. In addition, the net power output as delivered to the system operator is monitored at the switchyard. We would not be adverse to a permit requirement of monitoring and recording gross and net power output of the facility. We understand the concern. The interconnection of the Huntington Beach generating station presents a physical bottleneck to the system.

Stephen

From: Chris Perri [mailto:CPerri@aqmd.gov]
Sent: Wednesday, January 15, 2014 3:07 PM
To: Stephen O'Kane
Cc: Andrew Lee; Charles Tupac; John Yee
Subject: AES HB Plant Output Monitoring

Hi Stephen,

A question came up regarding the monitoring of the power output for the plant. We would like to get some details as to how the facility will monitor and record the plant MW's. Thanks

Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
(909) 396-2696

This communication is for use by the intended recipient and contains information that may be privileged, confidential or copyrighted under law. If you are not the intended recipient, you are hereby formally notified that any use, copying or distribution of this e-Mail, in whole or in part, is strictly prohibited. Please notify the sender by return e-Mail and delete this e-Mail from your system. Unless explicitly and conspicuously stated in the subject matter of the above e-Mail, this e-Mail does not constitute a contract offer, a contract amendment, or an acceptance of a contract offer. This e-Mail does not constitute consent to the use of sender's contact information for direct marketing purposes or for transfers of data to third parties. --

[redacted]

From: stephen.okane@AES.com
Sent: Monday, January 13, 2014 3:37 PM
To: MNazemi1@aqmd.gov
Cc: KWiese@aqmd.gov; BBaird@aqmd.gov; ALee@aqmd.gov; JYee@aqmd.gov; CPerri@aqmd.gov; frances.keeler@kyl.com; Jerry.Salamy@CH2M.com; Foster, Melissa A.; Felicia.Miller@energy.ca.gov; Matthew.Layton@energy.ca.gov; Roger.Johnson@energy.ca.gov
Subject: RE: AES Huntington Beach

Sorry for the misunderstanding. No we are not saying that we would operate at a 16% loss from gross to net, but we are saying that the difference in maximum output from the generators will vary 16% between site minimum and maximum temperatures.

The difference between gross and net output of a 3-on-1 power block ranges between 3 and 4 percent at any temperature (when fired at the most optimum efficiency), but to be able to generate at least 920 MW under all possible site conditions it will require us to install 1092 MW of gross capacity when the facility is rated at 32oF.

To produce exactly 939 MW at the coldest temperature of the site, then we would only need to fire the units at approximately 90% of their maximum heat input, and since this is a little bit less efficient than firing at the maximum heat input, the difference between gross and net output would be higher, around 5%. At approximately 75-80oF the units could be fired at their most efficient maximum heat input and the gross output would be 972 MW with a net output of exactly 939MW. Thus, the facility has been designed to operate at its most efficient state, and produce the site maximum output, when under the most likely summer time conditions when this much power is needed.

Is your question then, what is the difference between net and gross output at a given temperature? Heat rate tables, including net and gross output at site maximum, minimum, average and ISO conditions were provided to your permit engineer in December 2012.

Stephen O'Kane

From: Mohsen Nazemi [mailto:MNazemi1@aqmd.gov]
Sent: Monday, January 13, 2014 2:05 PM
To: Stephen O'Kane
Cc: Kurt Wiese; Barbara Baird; Andrew Lee; John Yee; Chris Perri; frances.keeler@kyl.com; Jerry.Salamy@CH2M.com; Foster, Melissa A.; Miller, Felicia@Energy; Layton, Matthew@Energy; 'Johnson, Roger@Energy'
Subject: RE: AES Huntington Beach

Is AES suggesting that in order to generate a net maximum amount of 920 MW at 110 F at the site, the new combined cycle turbines have to operate at a gross capacity of 1,092 MWs, or an almost 16% loss from gross to net?

Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering & Compliance
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Tel. (909)396-2662
Fax (909)396-3895
mnazemi1@aqmd.gov

From: Stephen O'Kane [mailto:stephen.okane@AES.com]
Sent: Monday, January 13, 2014 1:58 PM
To: Mohsen Nazemi
Cc: Kurt Wiese; Barbara Baird; Andrew Lee; John Yee; Chris Perri; frances.keeler@kyl.com; Jerry.Salamy@CH2M.com; Foster, Melissa A.; Miller, Felicia@Energy; Layton, Matthew@Energy; 'Johnson, Roger@Energy'
Subject: RE: AES Huntington Beach

Thank you for your email. Can you explain what you mean by "*the total Gross MWs generation necessary for the proposed new HB repower project to provide a Net amount of 939 MWs*" ?

In your original email you correctly identified the total unconstrained gross MWs of the new units as 1,092 MWs and also correctly identified the total proposed retirement MWs of 1,085 MWs and documentation for both the new gross MW and retired MW has already been provided.

If the question is referring to the gross output of the facility when the net output is exactly 939 MW, then that value can't be provided without specifying the ambient operating condition. The maximum output of the facility is never constant and is dependent on ambient conditions, as demonstrated in the documentation provided to your agency. At the maximum site temperature of 110o, the facility could only produce 920 MW Thus, the interconnection bottleneck only becomes a constraint under certain ambient conditions and the gross output of the facility at maximum firing rates is a function of ambient temperature and humidity.

Stephen O'Kane

From: Mohsen Nazemi [mailto:MNazemi1@aqmd.gov]
Sent: Monday, January 13, 2014 1:34 PM
To: Stephen O'Kane
Cc: Kurt Wiese; Barbara Baird; Andrew Lee; John Yee; Chris Perri; frances.keeler@kyl.com; Jerry.Salamy@CH2M.com; Foster, Melissa A.; Miller, Felicia@Energy; Layton, Matthew@Energy; 'Johnson, Roger@Energy'
Subject: RE: AES Huntington Beach

Thanks Stephen for the information provided to us last week. Based on the information in the CaISO's Final Interconnection Study Report for SCE Metro Area, dated December 3, 2013, the SCAQMD has determined that AES has demonstrated that the maximum net generation capacity of the Huntington Beach at the point of interconnection to Huntington Beach 220 KV Substation is 938.612 MWs. This is assuming that AES did not have any comments regarding this information, as specified by CaISO in their December 3, 2013 letter to AES, to which CaISO's Final Report was attached. The SCAQMD will incorporate this information in our PDOC for AES' review. Also I would appreciate if you can provide the other information (highlighted in yellow) that I requested in my December 23, 2013 email shown below. Thanks.

P.S. Also Frances Keeler and I have been playing phone tags last week and haven't been able to speak yet.

Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering & Compliance
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Tel. (909)396-2662
Fax (909)396-3895
mnazemi1@aqmd.gov

-----Original Message-----
From: Stephen O'Kane [mailto:stephen.okane@AES.com]
Sent: Tuesday, January 07, 2014 11:23 AM
To: Mohsen Nazemi

Cc: Kurt Wiese; Barbara Baird; Andrew Lee; John Yee; Chris Perri; frances.keeler@kyl.com; Jerry.Salamy@CH2M.com; Foster, Melissa A.; Miller, Felicia@Energy
Subject: RE: AES Huntington Beach

As requested, AES is providing documentation of the maximum interconnection capacity of the Huntington Beach Energy Project. The attached CAISO final report of the Cluster 5 Interconnection Study demonstrates the maximum generating capacity of the subject project is 938.6 MW and was submitted to the California Energy Commission as evidence in the Application for Certification of the Huntington Beach Energy Project (12-AFC-02). The enforcement mechanism for insuring the project is limited in generating capacity would be the CEC license and Condition of Certification and the CAISO Tariff mechanism. Should you require further information please contact me at one of the numbers below or via email.

We look forward to reviewing the District's Preliminary Determination of Compliance of this project.

Per: Stephen O'Kane
Manager
Sustainability and Regulatory Compliance
AES Southland
690 N. Studebaker Rd. | Long Beach, CA | 90803
Direct: 562-493-7840 | Cell: 562-508-0962 | Fax: 562-493-7737
stephen.okane@aes.com | www.aes.com

-----Original Message-----
From: Mohsen Nazemi [mailto:MNazemi1@aqmd.gov]
Sent: Monday, December 23, 2013 10:42 AM
To: Stephen O'Kane
Cc: Kurt Wiese; Barbara Baird; Andrew Lee; John Yee; Chris Perri; frances.keeler@kyl.com
Subject: RE: AES Huntington Beach
Importance: High

Thanks for the quick response. When we last spoke on the phone, I was actually initially inquiring about the Huntington Beach site interconnection capacity limits and was interested to find out what generation obligations AES has under contract. However, you argued that we don't need to discuss that, since the total generation capacity for the retired units will be greater than the generation capacity for the proposed new HB repower project. Therefore, I asked staff to look into this approach and the result was different, as shown in the table that emailed to you last Friday.

If AES wants to use the argument that the Huntington Beach site is limited in its interconnection capacity to 939 MWs, and argue that, as long as the proposed new HB repower project does not generate more than a net amount of 939 MWs, there is not increase in basin generation, then please send any documentation that shows this restriction on the Huntington Beach site and its enforcement mechanism, as well as any documentation that shows the total Gross MWs generation necessary for the proposed new HB repower project to provide a Net amount of 939 MWs. Thanks.

Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering & Compliance
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
Tel. (909)396-2662
Fax (909)396-3895

mnazemi1@aqmd.gov

-----Original Message-----
From: Stephen O'Kane [mailto:stephen.okane@AES.com]
Sent: Friday, December 20, 2013 6:22 PM
To: Mohsen Nazemi
Cc: Andrew Lee; John Yee; Chris Perri; frances.keeler@kyl.com
Subject: Re: AES Huntington Beach

Consistent with previous Rule 1304 projects, the MWs to be retired for AES' HB Energy Project are more than the total interconnection capacity of the site and AES has already satisfied the requirement to insure basin wide generating capacity does not increase. Consistent with Edison Mission Energy's Walnut Creek project which was limited by interconnection to 500.5 MW, and 19.5 MW less than the total rated gross MW of 5 LMS 100 turbines at 520 MW, the HB site is limited by interconnection to 939 MW. This is demonstrated by the CAISO Phase II interconnection report as submitted to the CEC and in multiple communications to the AQMD and the permit engineer, dating as far back as the pre filing meeting in May 2012. Since the Walnut Creek project proceeded with utility boiler retirements and ERC's for the interconnection limit of the site, the same should apply for the HB site.

Please advise If the AQMD is taking a different position on the AES projects.

Stephen O'Kane
562-508-0962
Sent from my iPhone

On Dec 20, 2013, at 3:58 PM, "Mohsen Nazemi" <MNazemi1@aqmd.gov<mailto:MNazemi1@aqmd.gov>> wrote:

Stephen, another option we may be able to use, if AES can't or doesn't want to modify the turbine size/model, is to say AES will either provide ERCs or use Rule 1304.2, if adopted by SCAQMD. Thanks.

Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering & Compliance Office
South Coast Air Quality Management District Phone No. (909)396-2662
Fax No. (909)396-3895
mnazemi1@aqmd.gov<mailto:mnazemi1@aqmd.gov>

From: Mohsen Nazemi
Sent: Friday, December 20, 2013 5:11 PM
To: 'Stephen O'Kane'
Cc: Andrew Lee; John Yee; Chris Perri
Subject: RE: AES Huntington Beach
Importance: High

Hi Stephen. After our last phone conversation last week regarding the AES Huntington Beach Energy Project (HBEP), I checked with my staff and after further discussions it appears that the total MWs for the HBEP is slightly greater than the total MWs for the utility boiler units that are being retired. A summary of this comparison is provided in the table below. Based on the summary below, the HBEP project is a little more than 6 MWs larger than the total MWs for the utility boilers they are replacing at Huntington Beach and Redondo Beach. Therefore, AES has an option of either providing ERCs for the balance (it can be proportional to the total emissions of the HBEP divided by 1,085 MWs and multiplied by 6 MWs, or about 0.6% of the total emissions from the HBEP), or AES can modify the size/model of one (or more) turbines to limit the total MWs to 1,085 MWs or less.

Since we need this information in order to complete our PDOC, please provide a response as soon as possible and copy all who are copied on this email. Thanks.

New Units

Rating

Unit to be Shutdown

Rating

Turbine 1A

132.3

HB Boiler 1

215

Turbine 1B

132.3

HB Boiler 2

215

Turbine 1C

132.3

RB Boiler 6

175

Steam Turbine

148.7

RB Boiler 8

480

Turbine 2A

132.3

TOTAL

1085

Turbine 2B

132.3

Turbine 2C

132.3

Steam Turbine

132.3

TOTAL

1091.2

Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering & Compliance Office
South Coast Air Quality Management District Phone No. (909)396-2662
Fax No. (909)396-3895
mnazemi1@aqmd.gov<mailto:mnazemi1@aqmd.gov>

This communication is for use by the intended recipient and contains information that may be privileged, confidential or copyrighted under law. If you are not the intended recipient, you are hereby formally notified that any use, copying or distribution of this e-Mail, in whole or in part, is strictly prohibited. Please notify the sender by return e-Mail and delete this e-Mail from your system. Unless explicitly and conspicuously stated in the subject matter of the above e-Mail, this e-Mail does not constitute a contract offer, a contract amendment, or an acceptance of a contract offer. This e-Mail does not constitute consent to the use of sender's contact information for direct marketing purposes or for transfers of data to third parties.

This communication is for use by the intended recipient and contains information that may be privileged, confidential or copyrighted under law. If you are not the intended recipient, you are hereby formally notified that any use, copying or distribution of this e-Mail, in whole or in part, is strictly prohibited. Please notify the sender by return e-Mail and delete this e-Mail from your system. Unless explicitly and conspicuously stated in the subject matter of the above e-Mail, this e-Mail does not constitute a contract offer, a contract amendment, or an acceptance of a contract offer. This e-Mail does not constitute consent to the use of sender's contact information for direct marketing purposes or for transfers of data to third parties.

[redacted]

From: CPerri@aqmd.gov
Sent: Wednesday, January 08, 2014 11:15 AM
To: Jerry.Salamy@CH2M.com
Subject: Shutdown Schedule and SOx Reclaim

Hi Jerry,

Could you tell me what the proposed shutdown and demolition schedule is for Redondo Beach Units 6 and 8? Also, will the new turbines at Huntington Beach be in the SOx RECLAIM program?

Thanks

Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
(909) 396-2696

[redacted]

From: Jerry.Salamy@CH2M.com
Sent: Friday, December 06, 2013 2:14 PM
To: MNazemi1@aqmd.gov; ALee@aqmd.gov
Cc: stephen.okane@AES.com; tchico@aqmd.gov; JYee@aqmd.gov; Elyse.Engel@ch2m.com
Subject: Sentinel and Watson Cogeneration Projects
Attachments: Pages from TN2003-02-10SCAQMDFDOCAddendum.pdf

Hi Mohsen and Andrew,

Tom Chico suggested I send you the attached modeling memorandum from the CPV Sentinel Final Determination of Compliance (FDOC). This memorandum shows the Sentinel project's operational 24-hour PM10 air dispersion modeling impacts exceed the AQMD's CEQA operational threshold of 2.5 ug/m3. I have excerpted the applicable part of the memorandum below for your convenience.

Furthermore, in review of the California Energy Commission's (CEC) Watson Cogeneration Company (Watson) Final Commission Decision, it appears that the CEC determined that the project's operational 24-hour PM10 impacts for all 5 cogeneration trains was 3.9 ug/m3 for all 5 cogeneration trains. A review of the AQMD's Watson FDOC shows that the PM10 modeling effort appears to be confined to assessing Watson's compliance with Rule 1303 Table A-2 criteria on a per emission unit basis and not on a total project impact basis. The CEC Final Decision can be downloaded from the link below.

http://docketpublic.energy.ca.gov/PublicDocuments/Regulatory/Non%20Active%20AFC's/09-AFC-1%20BP%20Watson/2012/April/TN%2064803%2004-16-12%20Final%20Commission%20Decision.pdf

Please call if you have any questions.

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

Excerpt from the Sentinel FDOC Addendum Modeling Memorandum

...10,000μg/m³, respectively.

✓ Background PM_{10} air quality in the impact area exceeds the state 24-hour and annual PM_{10} standards; therefore, project increments are compared to the Rule 1303 significance thresholds in Table A-2. The peak 24-hour PM_{10} impact from the total project is 13.9 $\mu g/m^3$ and the peak impact from an individual permit unit is 1.99 $\mu g/m^3$. The annual PM_{10} impact for the total project is 0.59 $\mu g/m^3$. These impacts are less than the Rule 1303 PM_{10} 24-hour and annual significance thresholds of 2.5 $\mu g/m^3$ and 1.0 $\mu g/m^3$, respectively, for an individual permit unit.

Excerpt of Watson Cogen CEC Final Commission Decision

Air Quality Table 4
Refined Modeling Maximum Impacts
During Startup and Operation (µg/m³)

Pollutant	Averaging Time	Modeled Impact	Background	Total Impact	Limiting Standard	Percent of Standard
NO_2	1 hour	29	264	293	339	87 percent
	1-hour Federal	29	139	168	188	89 percent
	Annual	0.1	54.1	54.2	57	95 percent
CO	1 hour	31.1	9,600	9,631	23,000	42 percent
	8 hour	23.4	7,315	7,338	10,000	73 percent
PM10	24 hour	3.9	131	134.9	50	**270 percent**
	Annual	0.2	45	45.2	20	**226 percent**
PM2.5	24 hour	1.3	48.5	49.8	35	**142 percent**
	Annual	0.2	17.5	17.7	12	**148 percent**
SO_2	1 hour	0.9	107	107.9	655	16 percent
	3 hour	0.7	107	107.7	1,300	8 percent
	24 hour	0.2	26.6	26.8	105	27 percent
	Annual	0.1	7	0	80	0 percent

The modeled impact values in **Air Quality Table 4** show that during worst-case startup and full load operations, the facility will potentially contribute to the existing PM10 and PM2.5 violations. Even without the project's contribution, background values significantly exceed the ambient air quality standard. We find that any increases constitute a significant impact if not mitigated.

Although the project's emissions alone do not cause a violation of any NO_2, CO, or SO_2 ambient air quality standards, all NO_2 emissions from the facility will still need to be offset with RECLAIM Trading Credits (RTCs) to maintain district wide progress toward attainment with the ozone ambient air quality standards because NO_2 is a precursor emission to ozone formation. Similarly, the direct SO_2 impacts from the Watson Project, which do not cause a violation of the SO_2 ambient air quality standards, will need to be offset with RTCs to maintain district-wide progress toward attainment with the PM10 ambient air quality standards because SO_2 is a precursor pollutant to secondary PM10/PM2.5 formation. Implementation of Conditions of Certification **AQ-2** and **AQ-15** will ensure compliance. (Ex. 200, p. 4.1-32.)

6.2-12
Air Quality

APPENDIX A

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

MEMORANDUM

DATE: November 13, 2009

TO: Mike Mills

FROM: Naveen Berry

SUBJECT: Review of an Air Quality Analysis and a Health Risk Assessment for Amendment to Permit to Construct/Permit to Operate Application for the CPV Sentinel Energy Project (A/N's 472139 thru 472158)

As you requested, Planning, Rule Development & Area Sources (PRA) staff reviewed the air quality analysis and the health risk assessment (HRA) for the proposed project by CPV Sentinel (CPVS) located in Riverside County (A/N's 472139 thru 472158). The project was previously reviewed by PRA staff and found to be in compliance with Rules 1303 and 1401. However, there have been changes to the project, such as a reduction in the maximum operating hours for three turbines, replacement of the 3-cell and 5-cell cooling towers with 8 single-cell towers located adjacent to the individual turbines, elimination of the black start engine, and a reduction in the guaranteed PM_{10} emission rate for the turbines to 5 lb/hr. Therefore, the air quality analysis and HRA were revised to reflect these changes and the report (dated October 15, 2009 and revised on November 12, 2009) was submitted along with a DVD containing electronic files. PRA staff reviewed the air quality analysis and HRA and our comments are as follows:

- **AERMOD Modeling for the Air Quality Analysis**
  - ✓ The applicant used EPA AERMOD model (version 07026) with appropriate model options in their modeling analysis for NO_2, CO, PM_{10}, and SO_2.
  - ✓ The source parameters are consistent with those listed in Table 4-4 and are assumed to be correct.
  - ✓ The receptor grid spacing and the area covered are adequate to determine the maximum impacts from the facility.
  - ✓ The applicant used four years (1998 through 2001) of meteorological data in their modeling applications. The AERMOD model requires both surface and upper air meteorological data in the modeling applications. The National Weather Service (NWS) surface data at Dagget-Barstow station were used with wind data from the Wintec Wind Energy facility. The wind data at Wintec facility were processed as on-site data since it is adjacent to the proposed project site. The upper air data were obtained from the Desert Rock station in Nevada because it has the best data coverage for the modeling application. These meteorological data are appropriate for the facility impact area.
  - ✓ BPIP-PRIME was used to generate the parameters used in the AERMOD model for building downwash effects.
  - ✓ The AERMOD modeling conforms to the District's dispersion modeling requirements.

- **Application of AERMOD Model Output for the Air Quality Analysis**
  - ✓ The applicant estimated the air quality impacts for the total project (eight turbines, one fire pump engine, and eight cooling towers (for PM_{10} analysis only)). The applicant used the highest monitoring data from 2004 through 2006 (these were the most recent three years when the original application was submitted) for the applicable monitoring stations (Palm Springs, Indio, and Riverside-Rubidoux) to determine the background concentrations for each criteria pollutant. The predicted modeling results were added to the background concentrations for comparison to the ambient air quality standards.
  - ✓ The applicant estimated the air quality impacts for many scenarios which included the commissioning, startup, normal operation, and shutdown phases. The worst-case scenario was identified for each pollutant and each averaging period. The air quality analysis estimated the total project impact; therefore, the impact for each individual permit unit will be less than the total project impacts identified.
  - ✓ The model results for NO_2, SO_2, CO, and PM_{10} analysis for the proposed project are presented in Table 4-5 of the report. PRA staff reproduced selected modeling scenarios and confirmed that the information provided in Table 4-5 is consistent with the model output files. PRA staff results are presented below.
  - ✓ The peak 1-hour NO_2 impact for the total project plus background concentrations is 287 $\mu g/m^3$. The peak annual NO_2 impact for the total project plus background is 25.3 $\mu g/m^3$. These impacts are less than the state 1-hour NO_2 standard of 339 $\mu g/m^3$ and the state annual NO_2 standard of 57 $\mu g/m^3$.
  - ✓ The peak 1-hour and 8-hour CO impacts for the total project plus background concentrations are 2,815 $\mu g/m^3$ and 976.4 $\mu g/m^3$, respectively. These impacts are less than the state and federal 1-hour and 8-hour CO standards of 23,000 $\mu g/m^3$ and 10,000$\mu g/m^3$, respectively.
  - ✓ Background PM_{10} air quality in the impact area exceeds the state 24-hour and annual PM_{10} standards; therefore, project increments are compared to the Rule 1303 significance thresholds in Table A-2. The peak 24-hour PM_{10} impact from the total project is 13.9 $\mu g/m^3$ and the peak impact from an individual permit unit is 1.99 $\mu g/m^3$. The annual PM_{10} impact for the total project is 0.59 $\mu g/m^3$. These impacts are less than the Rule 1303 PM_{10} 24-hour and annual significance thresholds of 2.5 $\mu g/m^3$ and 1.0 $\mu g/m^3$, respectively, for an individual permit unit.

- **PSD Analyses**
  - ✓ The applicant estimated the emissions from the proposed project for NO_2, CO, PM_{10}, and SO_2. The emission summary is provided in Table 4-2 of the report. It has been determined that the proposed project is not subject to PSD Rule requirements since none of the criteria emissions are greater than the PSD threshold of 250 tons per year.

- **Visibility Analyses**
  - ✓ The visibility analysis was not revised. The revisions to the project will result in the short-term project emissions to be either at the same level or less than what was previously analyzed. The second largest source of combustion pollutant emissions was the blackstart engine, which has been removed from the project. The PM_{10} emissions from the cooling towers are less than the emissions originally included. Therefore, the visibility impacts from the revised project are less than the PLUVUE II impacts contained in the original report.

- **ISCST3 Modeling for the Health Risk Assessment**
  - ✓ The applicant used EPA ISCST3 model (version 99155) in their modeling analysis. (This is the version of ISCST3 used in HARP.)
  - ✓ The source parameters are assumed to be correct.
  - ✓ The receptor grid spacing and the area covered are adequate to determine the maximum impacts from the facility.
  - ✓ The applicant used the same meteorological data which is used in the air quality analysis.
  - ✓ The ISCST3 modeling conforms to the District's dispersion modeling procedures.

- **Application of HARP for the Health Risk Impacts**
  - ✓ The applicant performed the risk assessment with the Hot Spots Analysis and Reporting Program (HARP, version 1.4a). The District HRA procedures require HARP to be used in Tier 4 risk assessments.
  - ✓ The applicant estimated the health risk values for the total project (a total of 17 emission sources including eight turbines, eight cooling towers, and one fire pump engine).
  - ✓ The peak cancer risks for the total project at all receptors is 0.5 in one million. The peak acute and chronic hazard indices for the total project are 0.1 and 0.008, respectively. These total facility risks are less than the Rule 1401 cancer and non-cancer permit limits of 10 in one million and hazard index of 1, respectively.

Modeling staff spent a total of 30 hours on this review. Please direct any questions to Thomas Chico at ext. 3149.

TC:JB

cc: Roy Olivares

[redacted]

From: Jerry.Salamy@CH2M.com
Sent: Tuesday, November 26, 2013 5:45 PM
To: MNazemi1@aqmd.gov
Cc: tchico@aqmd.gov; ctupac@aqmd.gov; JYee@aqmd.gov; jbaker@aqmd.gov; CPerri@aqmd.gov; stephen.okane@AES.com; Jennifer.Didlo@AES.com; Elyse.Engel@ch2m.com; Keith.McGregor@CH2M.com
Subject: AES Huntington Beach Energy Project (ID 115389)
Attachments: HBEP_SCAQMD_Commissioning_PM10_11-26-13_FINAL.pdf

Hi Mohsen,

Attached is AES's follow up to the November 19th meeting. Please let me know if you have any questions.

Thanks

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

AES Huntington Beach, LLC
21730 Newland Street
Huntington Beach, CA 92646
tel 562 493 7891
fax 562 493 7320

November 26, 2013

Mr. Mohsen Nazemi, P.E.
Deputy Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178

Subject: Huntington Beach Energy Project Permit Application (Facility ID# 115389)

Dear Mr. Nazemi:

AES Huntington Beach, LLC (AES) is submitting this letter in response to our November 19th meeting with SCAQMD permitting and dispersion modeling staff. The meeting was held to discuss the predicted Huntington Beach Energy Project's (HBEP) carbon monoxide (CO) and nitrogen dioxide (NO_2) commissioning impacts and the operational 24-hour PM_{10}[1] impacts compared to the ambient air quality standards. This letter presents AES's proposed resolution to these concerns.

1) Commissioning Scenario NO_2 and CO Ambient Air Quality Impact Assessment

Response: During an update of a California Energy Commission (CEC) data request, AES prepared an updated commissioning impact assessment for HBEP. The assessment analyzed the worst-case commissioning scenario, assuming all three combustion turbines are commissioning at the same time. This assessment also analyzed the commissioning impacts assuming only one combustion turbine is undergoing commissioning. The table below presents the results from this assessment, which shows that commissioning one combustion turbine at a time results in air quality impacts that do not cause or contribute to the violation of an ambient air quality standard. Attachment 1 provides an excerpt of AES's submittal to the CEC.[2]

AES proposes to mitigate potential CO and NO_2 air quality impacts from the commissioning of the HBEP gas turbines by accepting an enforceable limit or restriction on the commissioning activities that may occur at any point in time. AES proposes to limit commissioning events and the resulting emissions such that the

[1] Particulate matter with an aerodynamic diameter equal to or less than 10 microns.

[2] A complete copy of this submission can be downloaded from the CEC's website at the following link http://docketpublic.energy.ca.gov/PublicDocuments/12-AFC-02/TN201106_20131104T142902_Applicant's_Resubmission_of_Data_Responses_Set_1B_4_and_5.pdf.

operation of a gas turbine with 0 percent emission controls will be limited to a single gas turbine and heat recovery steam generator (HRSG) train at any one time. When a gas turbine and HRSG train has commissioned and employed dry low NO_x burners, CO catalyst, and Selective Catalytic Reduction (SCR) and is expected to achieve 75 percent control of CO and NO_2 emissions, up to two gas turbine and HRSG trains may continue to complete commissioning activities.

TABLE DR104-2R
Turbine Commissioning Impacts Analysis—Maximum Modeled Impacts Compared to the Ambient Air Quality Standards

Pollutant	Averaging Time	Maximum Modeled Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$) [a]	Total Predicted Concentration ($\mu g/m^3$)	State Standard ($\mu g/m^3$)	Federal Standard ($\mu g/m^3$)
Commissioning of 3 Turbines						
NO_2 [b]	1-hour	276	140	416	339	—
CO	1-hour	9,971	3,321	13,292	23,000	40,000
	8-hour	7,789	2,519	10,308	10,000	10,000
Commissioning of 1 Turbine						
NO_2 [b]	1-hour	141	140	281	339	—
CO	1-hour	5,093	3,321	8,414	23,000	40,000
	8-hour	4,341	2,519	6,860	10,000	10,000

[a] Background concentrations were the highest concentrations monitored during 2010 through 2012.
[b] The maximum 1-hour NO_2 concentration includes an ambient NO_2 ratio of 0.80 (EPA, 2011).

2) Operational PM_{10} Ambient Air Quality Impacts

Response: The operational 24-hour PM_{10} impacts presented in the October 18, 2013 letter submitted to the SCAQMD shows that, under worst-case operational and meteorological conditions, HBEP has the potential to contribute to the continued violation of the state ambient air quality standard (absent mitigation) and exceeds the SCAQMD's California Environmental Quality Act (CEQA) significance threshold for operational 24-hour PM_{10} impacts of 2.5 microgram per cubic meter ($\mu g/m^3$).[3] As the HBEP project area is considered non-attainment for the state 24-hour PM_{10} ambient air quality standard, the project's contribution would require mitigation. Consistent with SCAQMD Rule 1304(a)(2), the HBEP PM_{10} emissions will be offset through the use of emission offsets credits following the process and procedures in Rule 1315. Additionally, the Huntington Beach Generating Station Units 1 and 2 will be permanently retired, resulting in the elimination of onsite emission sources. Finally, AES is also subject to SCAQMD Rule 1304.1, which will require the payment of fees on the order of $70 million dollars to generate air quality improvements within the project area consistent with the SCAQMD's approved Air Quality Management Plan. With the proposed mitigation strategies of retiring real, enforceable, quantifiable and surplus PM_{10} emission offsets and retiring two existing utility steam boilers located at the HBEP project site, potential 24-hour PM_{10} air quality

[3] The SCAQMD ambient air quality CEQA thresholds for criteria pollutants are based on SCAQMD Rule 1303, Table A-2 unless otherwise stated; see footnote d of the SCAQMD Air Quality Significance Thresholds.

impacts will be mitigated to less-than-significant impacts consistent with the requirements of CEQA. Furthermore, the establishment of an air quality improvement fund from fees generated by the development of the HBEP project will insure further that air quality improvement projects consistent with the SCAQMD's Air Quality Management Plan will be developed in the vicinity of the HBEP.

If you require further information, please don't hesitate contacting me at 562-493-7840.

Sincerely,

Stephen O'Kane
Manager
AES Huntington Beach, LLC
Attachment

cc: Chris Perri/SCAQMD w/o CD
Jillian Baker/SCAQMD
Robert Mason/CH2M HILL w/o CD
Jennifer Didlo/AES w/o CD
Melissa Foster/Stoel Rives
Jerry Salamy/CH2M HILL w/o CD
Felicia Miller/CEC
Tom Chico/SCAQMD w/o CD

[redacted]

From: Jerry.Salamy@CH2M.com
Sent: Monday, November 25, 2013 12:53 PM
To: CPerri@aqmd.gov
Cc: Elyse.Engel@ch2m.com
Subject: RE: AES Huntington Beach Energy Project 1-Hour NO2 Competing Source Inventory

Hi Chris,

The calculation for the annual NOx emissions is based on fired and unfired NOx emissions you show below. However, to calculate the annual start and stop emissions we used the number of start/stops and the start/stop emissions on a lb/event values (see below). Here is the annual NOx calculation for your reference.

(5900 hours/year * 9.85 lbs/hr + 470 hours/year * 13.63 lb/hr + 24 cold starts * 28.7 lb NOx/Start + 150 warm starts * 16.6 lb NOx/start + 450 hot starts * 16.6 lb NOx/start + 624 shutdowns * 9.0 lb NOx/stop)/2000 lb/ton = 40.4 TPY NOx * 6 turbines = 242.3 tpy

	NOx	CO	VOC
Start Up	**lb/Event**	**lb/Event**	**lb/Event**
Cold	28.7	115.9	27.9
Warm	16.6	46.0	21.0
Hot	16.6	33.6	20.4
Shutdown	9.0	45.3	31.0

	Events	Hours
Annual Unfired Hours	--	5900
Annual Fired Hours	--	470
Annual Cold Starts	24	36
Annual Warm Starts	150	81
Annual Hot Starts	450	244
Annual Shutdowns	624	104

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

From: Chris Perri [mailto:CPerri@aqmd.gov]
Sent: Tuesday, November 19, 2013 3:53 PM
To: Salamy, Jerry/SAC
Subject: RE: AES Huntington Beach Energy Project 1-Hour NO2 Competing Source Inventory

Hi Jerry,

I'm trying to recreate your annual NO2 emission calculations. These are the emission rates I have:

Thanks,

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

From: Jillian Baker [mailto:jbaker@aqmd.gov]
Sent: Tuesday, October 08, 2013 4:29 PM
To: Salamy, Jerry/SAC
Cc: Charles Tupac; Mohsen Nazemi; Tom Chico; John Yee; stephen.okane@AES.com; Gbemis@energy.state.ca.us; Felicia.Miller@energy.ca.gov; Mason, Robert/SCO; Chris Perri; Engel, Elyse/SJC
Subject: RE: AES Huntington Beach Energy Project 1-Hour NO2 Competing Source Inventory

Hi Jerry,

I have reviewed the files you sent and the inputs in the AERMOD file are consistent with the parameters which we have provided to you.

As for the MPRM processed meteorological data which you will be using in the visibility analysis, we are unable to perform a thorough review since we do not have the accompanying write-up which describes what was done in detail.

Please proceed with the air quality analyses for this project. Once we have received your reports, we will provide you with any additional comments we might have after that review.

Jillian Baker, Ph.D.
South Coast AQMD
21865 Copley Drive,
Diamond Bar, CA 91765
Direct: 909.396.3176

From: Jerry.Salamy@CH2M.com [mailto:Jerry.Salamy@CH2M.com]
Sent: Thursday, October 03, 2013 2:13 PM
To: Jillian Baker
Cc: Charles Tupac; Mohsen Nazemi; Tom Chico; John Yee; stephen.okane@AES.com; Gbemis@energy.state.ca.us; Felicia.Miller@energy.ca.gov; Robert.Mason@CH2M.com; Chris Perri; Elyse.Engel@ch2m.com
Subject: AES Huntington Beach Energy Project 1-Hour NO2 Competing Source Inventory

Hi Jillian,

Per your direction, attached is the Huntington Beach Energy Project's 1-hour competing source AERMOD input file for your review and approval.

Per your request, we have processed the meteorological data used for the AERMOD dispersion modeling to allow the development of joint frequency wind tables required for the VISCREEN Tier 2 analysis. Attached is the processed MPRM meteorological data for use in the HBEP Class II VISCREEN Tier 2 analysis.

Your review and approval of these files will be greatly appreciated.

Thanks,

Jerry Salamy
Principal Project Manager

CH2M HILL/Sacramento
Phone 916-286-0207
Fax 916-614-3407
Cell Phone 916-769-8919

[redacted]

From: Jerry.Salamy@CH2M.com
Sent: Wednesday, November 06, 2013 11:19 AM
To: Ann.Chu@energy.ca.gov
Cc: Gerry.Bemis@energy.ca.gov; Felicia.Miller@energy.ca.gov; Robert.Mason@CH2M.com; Elyse.Engel@ch2m.com; Cindy.Salazar@CH2M.com
Subject: RE: Questions of Sensitive Receptors

Hi Ann,

I confirmed with the modeler that no changes were made to either the sensitive receptor list (identified in the table you attached to your email) or the sensitive receptor numbers between the November 2012 filing and the November 2013 filing.

Please let

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

From: Chu, Ann@Energy [mailto:Ann.Chu@energy.ca.gov]
Sent: Tuesday, November 05, 2013 4:27 PM
To: Salamy, Jerry/SAC
Cc: Bemis, Gerry@Energy; Miller, Felicia@Energy
Subject: Questions of Sensitive Receptors

Hi, Jerry,

I received the update health risk assessment for Huntington Beach yesterday. In your new analysis, did you have any change for the sensitive receptors, especially the HARP receptor number? The attached is the excel file of "Huntington Beach HRA Sensitive Receptors and Corresponding HARP Receptor Numbers" from Data Response #38 in last November. I am wondering if the information inside is still true or could you please email me the updated one. Thanks.

Huei-An (Ann) Chu, Ph.D.
Air Resources Engineer
California Energy Commission
1516 Ninth Street, MS-46
Sacramento, California 95814
(916) 651-0965
Ann.Chu@energy.ca.gov

[redacted]

From: Jerry.Salamy@CH2M.com
Sent: Thursday, November 29, 2012 1:55 PM
To: CPerri@aqmd.gov; stephen.okane@AES.com
Cc: Robert.Mason@CH2M.com; JAMCKINSEY@stoel.com; Foster, Melissa A.; Tao.Jiang@energy.ca.gov; Gerry.Bemis@energy.ca.gov
Subject: RE: HBEP PM10 emissions

Chris,

Table 5.1-13 hot and warm start hourly PM10/2.5 emission rates include 32.5 minutes of start-up PM10/2.5 emissions (4.5 pounds) with the balance of the hour (27.5 minutes) of duct fired PM10/2.5 emissions which is why the value is presented as <9.5 lb/hr. Since Table 5.1-13 was not intended to be used in estimating annual emissions, I don't believe it requires correction.

To clarify the method used to calculate the annual PM10/2.5 emission rate, we calculated annual PM10/2.5 emissions based on start/shutdown hours only (465 hours/year per turbine) at an emission rate of 4.5 lb/hr as shown below.

HBEP Shutdown Annual PM10/2.5 Emissions

Event	Number	Hours/Event	Annual Hours	Emission Rate (lb/hr)	Annual PM10/2.5 (lb)	Notes
Cold Start	24	1.5	36	4.5	162	Annual Hours = 1.5 hr * 24
Warm/Hot	600	0.5417	325	4.5	1462.5	Annual Hours = 32.5 min/60
Shutdown	624	0.17	104	4.5	468	Annual Hours = 10 min/60 r
Unfired	5900	1	5900	4.5	26550	
Fired	470	1	470	9.5	4465	
		Total Hrs	6835			
				Total per Turbine	33107.5	
				Total Tons per Turbine	16.6	
				Total Tons per 6 Turbines	99.3	

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

From: Chris Perri [mailto:CPerri@aqmd.gov]
Sent: Wednesday, November 28, 2012 3:22 PM
To: Stephen O'Kane
Cc: Mason, Robert/SCO; Salamy, Jerry/SAC; 'JAMCKINSEY@stoel.com'; 'mafoster@stoel.com'; 'Tao.Jiang@energy.ca.gov'; 'Gerry.Bemis@energy.ca.gov'
Subject: RE: HBEP PM10 emissions

Can you please update Table 5.1-13 to reflect this?

Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
(909) 396-2696

From: Stephen O'Kane [mailto:stephen.okane@AES.com]
Sent: Wednesday, November 28, 2012 3:17 PM
To: Chris Perri
Cc: 'Robert.Mason@CH2M.com'; 'Jerry.Salamy@CH2M.com'; 'JAMCKINSEY@stoel.com'; 'mafoster@stoel.com'; 'Tao.Jiang@energy.ca.gov'; 'Gerry.Bemis@energy.ca.gov'
Subject: Re: HBEP PM10 emissions

Chris,

A turbine start would not employ duct burners under any circumstance. All start times would be at 4.5 lb/hr.

Sorry about the delay on the start emissions. I'll check with the vendor right away.

Stephen O'Kane
Sent from my mobile device

From: Chris Perri [mailto:CPerri@aqmd.gov]
Sent: Wednesday, November 28, 2012 04:59 PM
To: Stephen O'Kane
Cc: Robert.Mason@CH2M.com <Robert.Mason@CH2M.com>; 'Jerry.Salamy@CH2M.com' <Jerry.Salamy@CH2M.com>; McKinsey, John A. <JAMCKINSEY@stoel.com>; Foster, Melissa A. <mafoster@stoel.com>; Jiang, Tao@Energy <Tao.Jiang@energy.ca.gov>; Bemis, Gerry@Energy <Gerry.Bemis@energy.ca.gov>
Subject: HBEP PM10 emissions

Stephen,

In performing the calculation for annual PM10 emissions I found that the total I come up with is 103.8 tpy. I am using the following information:

5,900 hrs per year with no duct firing, 4.5 lbs/hr
470 hrs per year with duct firing, 9.5 lbs/hr
36 hrs per year cold start (24 starts @ 1.5 hrs each), 4.5 lbs/hr
325 hrs per year warm + hot starts (600 starts @ 32.5 minutes each), 9.5 lbs/hr
62.4 hrs per year shutdowns (624 shutdowns @ 10 minutes each), 4.5 lbs/hr

The emission factors for start ups and shutdowns come from Table 5.1-13.

Also, I'm still waiting for the start up emission breakdown for NOx.

Thank you,

Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
(909) 396-2696

This communication is for use by the intended recipient and contains information that may be privileged, confidential or copyrighted under law. If you are not the intended recipient, you are hereby formally notified that any use, copying or distribution of this e-Mail, in whole or in part, is strictly prohibited. Please notify the sender by return e-Mail and delete this e-Mail from your system. Unless explicitly and conspicuously stated in the subject matter of the above e-Mail, this e-Mail does not constitute a contract offer, a contract amendment, or an acceptance of a contract offer. This e-Mail does not constitute consent to the use of sender's contact information for direct marketing purposes or for transfers of data to third parties.

CH2M HILL
2485 Natomas Park
Drive Suite 600
Sacramento, CA
95833
Tel 916.920.0212
Fax 916.920.8463

June 21, 2013

Mike McCorison
Air Resource Specialist
United States Department of Agriculture, Forest Service
Angeles National Forest
701 N. Santa Anita Avenue
Arcadia, California 91006

Subject: AES Huntington Beach LLC's Huntington Beach Energy Project Prevention of Significant Deterioration Permit Application

Dear Mr. McCorison:

Consistent with your request, I am submitting an electronic and hard copy of AES Huntington Beach LLC's (AES) Huntington Beach Energy Project (HBEP) Prevention of Significant Deterioration (PSD) Permit Application for your review. Included in the submitted permitting materials are AES's responses to requests issued by the South Coast Air Quality Management District (SCAQMD) and California Energy Commission related to air quality.

HBEP is located in Huntington Beach, California. AES submitted the PSD permit application for HBEP to the SCAQMD in June 2012 and U.S. Environmental Protection Agency (EPA) Region 9 in September 2012 (the EPA subsequently delegated PSD review for greenhouse gases [GHGs] to the SCAQMD on January 9, 2013). The SCAQMD deemed AES's HBEP PSD permit application conditionally complete in July 2012.

HBEP is a natural gas-fired, combined-cycle, air-cooled, 939-megawatt (MW) electrical generating facility that will replace, and be constructed on the site of, the AES Huntington Beach Generating Station, an existing and operating power plant. HBEP will consist of six Mitsubishi 501DA combustion turbine generators (CTGs) equipped with dry low-oxides of nitrogen (NO_x) combustors to control NO_x emissions and evaporative coolers for reducing inlet air temperatures; six heat recovery steam generators (HRSGs) with natural gas-fired duct burners with selective catalytic reduction (SCR) systems for NO_x emissions control and oxidation catalyst equipment to control carbon monoxide (CO) and volatile organic compound (VOC) emissions; two Mitsubishi single-casing, axial exhaust steam turbine generators (STGs); two air-cooled condensers; and associated support equipment.

The CTGs and associated duct burner equipment will include the use of best available control technology (BACT) to limit emissions of criteria pollutants and hazardous air pollutants. NO_x will be controlled to 2.0 parts per million by volume, dry basis (ppmvd), corrected to 15 percent oxygen through the use of dry low-NO_x combustors and SCR. An oxidation catalyst will also be used to control CO emissions to 2.0 ppmvd at 15 percent oxygen and VOC emissions to 1.0 ppmvd at 15 percent oxygen. BACT for particulate matter (with a diameter less than 10 and 2.5 microns [PM_{10} and $PM_{2.5}$, respectively]) and sulfur dioxide (SO_2) will be the exclusive use of natural gas with a sulfur content not to exceed 0.75 grains per 100 standard cubic feet of natural gas (gr/100 scf). Emissions of excess ammonia (ammonia slip) not used in the SCR process will be limited to 5.0 ppmvd at 15 percent oxygen.

Table 1 presents HBEP's annual emissions based on 6,835 operating hours which include 624 start up and shutdowns.[1] Although the emissions presented in Table 1 represent a capacity factor of over 70 percent, AES expects HBEP's actual capacity factor to be between 35 and 50 percent.

TABLE 1
HBEP Annual Air Emissions

Pollutant	Annual Emissions per Turbine (tons)	Annual Emissions Facility Total (tons)
Oxides of Nitrogen (NOx)	40.4	242
Carbon Monoxide (CO)	46.2	277
Volatile Organic Compounds (VOC)	21.8	131
Sulfur Dioxide (SO2)	2.16	13
Particulate Matter (PM10/2.5)	16.6	99
Greenhouse Gases (GHG)	523,528	3,141,167

Source: AES Huntington Beach, LLC. *Response Letter to the SCAQMD's July 24, 2012, Request for Additional Information.* September 20, 2012.

AES expects the SCAQMD to issue permit conditions that limit HBEP's maximum allowable 24-hour air emissions consistent with Rule 1303(b)(2) for VOC and PM_{10} and annual emissions per Rule 2005 for NOx and SO_2. Table 2 presents HBEP's maximum allowable 24-hour and annual emissions. A review of Table 2 shows that the annual emissions based on the maximum allowable 24-hour emissions are substantially higher than the allowable annual air emissions.

TABLE 2
HBEP Annualized 24-Hour and Expected Annual Air Emission Estimates

Pollutant	Maximum Expected Allowable Lb/Day	Expected Allowable TPY	TPY - 24 Hour Basis
NO_x	2,042	242	373
CO	2,519	277	460
VOC	1,209	131	221
SO_2	318	13	58
$PM_{10/2.5}$	856	99	156
Sulfuric Acid	16	0.5	3
Total of NOx, SO2, $PM_{10/2.5}$ and Sulfuric Acid	NA	355	590

Lb/Day = pounds per day, NA = not applicable, and TPY = tons per year
Source: AES's Huntington Beach, LLC. *Response Letter to the SCAQMD's July 24, 2012, Request for Additional Information.* September 20, 2012.

As shown in Table 3 and Figure 1, the nearest Class I area is the Cucamonga Wilderness, located 69 kilometers from HBEP. Using the initial screening criteria (size/distance or Q/D or 590/69 = 8.6)[2] and HBEP's annualized maximum allowable 24-hour emissions, the project is presumed to not impact visibility or air quality related values of the Class I areas. It should be noted that using the annualized maximum allowable 24-hour emissions

[1] See AES's Huntington Beach, LLC. *Response Letter to the SCAQMD's July 24, 2012, Request for Additional Information.* September 20, 2012.

[2] U.S. Forest Service, National Park Service, and U.S. Fish and Wildlife Service. 2010. Federal land managers' air quality related values work group (FLAG): phase I report—revised (2010). Natural Resource Report NPS/NRPC/NRR—2010/232. National Park Service, Denver, Colorado.

overestimates HBEP's annual emissions by approximately 50 percent, as shown in Table 2. Furthermore, as HBEP will be replacing the operating Huntington Beach Generating Station Units 1 and 2, the emission estimates in Table 2 include the emission reductions associated with the removal of operating Units 1 and 2.

TABLE 3
Class I Areas Near HBEP

Class I Area	Distance to HBEP in Kilometers
Cucamonga Wilderness	69
San Gabriel Wilderness	69.9
Agua Tibia Wilderness	90.6
San Gorgonio Wilderness	107.6
San Jacinto Wilderness	114.2
Joshua Tree Wilderness	145.4
San Rafael Wilderness	192.3
Domeland Wilderness	229.2

Finally, the dispersion modeling analysis conducted to demonstrate HBEP's annual nitrogen dioxide (NO_2) impacts at the nearest Class I area shows that impacts do not exceed the Class I significant impact level.[3]

If you have any questions, please call me at 916-286-0207.

Sincerely,

CH2M HILL

Jerry Salamy
Principal Project Manager

Attachments

C: Stephen O'Kane/AES (Electronic Copy)
Melissa Foster/Stoel Rives (Electronic Copy)
Felicia Miller/CEC (Electronic Copy)
Chris Perri/SCAQMD (Electronic Copy)

[3] See AES's Response to the California Energy Commission Data Request 4, dated May 17, 2013.