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Staff Response to Comments on the Heat Input Petition to Amend Staff Analysis

Pio Pico Energy Center 11-AFC-1C

On July 16, 2014, the Pio Pico Energy Center, LLC, the owner of Pio Pico Energy Center (Pio Pico), filed a petition with the California Energy Commission requesting to amend the Final Decision for Pio Pico. The proposed change to the Pio Pico certification would be limited to the proposed nominal, approximately 10% increase in hourly heat input.

On November 6, 2015 the staff analysis for the proposed change was published. In the staff analysis, staff proposed new and revised **Air Quality** conditions of certification and revised **Traffic and Transportation** Condition of Certification **TRANS-9**.

On December 1, 2015, comments were received and docketed from the Pio Pico Energy Center, LLC, providing minor corrections on three Air Quality Conditions of Certification: AQ-30, AQ-31 and AQ-59.

Staff reviewed the comments and agreed with all the minor corrections provided by the project owner. Additionally, staff became aware of updated sectional charts and changes to the list of agencies that receive aerodrome remarks in Condition of Certification **TRANS-9**. In response, staff has made corrections as follows in double underline for additions and ~~double strikethrough~~ for deletions to distinguish them from the changes in the staff analysis published on November 6, 2015.

STAFF CORRECTIONS

Compliance Time Periods—For each emission limit expressed as pounds, pounds per hour, or parts per million **by volume on a dry basis (ppmvd)** based on a one-hour or less averaging period or compliance period, compliance shall be based on using data collected at least once every minute when compliance is based on CEMS data data ~~except as specified in the district approved CEMS Protocol~~. [Rules 69.3, 69.3.1, and 20.3(d)(1)]

AQ-30 For each rolling ~~four~~-4-unit-operating-hour period, average emission concentration of oxides of nitrogen (NOx) for each turbine calculated as nitrogen dioxide (NO₂) in parts per million by volume on a dry basis (ppmvd) corrected to 15% oxygen or, alternatively, as elected by the ~~permittee~~project owner, the average NOx emission rate in pounds per megawatt-hour (lb/MWh) shall not exceed an average emission limit calculated in accordance with 40 CFR Section 60.4380(b)(3). The emission concentration and emission rate averages shall be calculated in accordance with 40 CFR Section 60.4380(b)(1). The average emission concentration limit and emission rate limit shall be based on an average of hourly emission limits over the ~~four~~-4-unit-operating-hour period including the operating hour and the three unit operating hours immediately preceding that hour. For any unit operating hour where multiple emission standards would apply based on load of the turbine, the applicable standard shall be the higher of the two limits. The hourly emission concentration limit and emission rate limit shall be as follows based on the load of the turbine over the four unit operating hour period:

<u>Case</u>	<u>Emission Limit ppmvd at 15% O₂</u>	<u>Emission Limit lb/MWh</u>
<u>i. All four hours at or above 75% Load</u>	<u>15</u>	<u>0.43</u>
<u>ii. All four hours below 75% Load</u>	<u>96</u>	<u>4.7</u>
<u>iii. Combination of hours</u>	<u>(a x 15+b x 96)/4</u>	<u>(a x 0.43+b x 4.7)/4</u>

Where: a = the number of unit operating hours in the four hour period with all operation above 75% load and b = 4-a.

~~15 ppmvd corrected to 15% oxygen and 0.43 lb/MWh, respectively at all times during the clock hour.~~ The averages shall exclude all clock hours occurring before the Initial Emission Source Test but shall include emissions during all other times that the equipment is operating including, but not limited to, emissions during startup and shutdown periods for that turbine. For each six-calendar-month period, emissions in excess of these limits and monitor downtime shall be identified in accordance with 40 CFR Sections 60.4350 and 60.4380(b)(2), except that Section 60.4350(c) shall not apply for identifying periods in excess of a NOx concentration limit. For the purposes of this condition, unit operating hour shall have the same meaning as defined in 40 CFR 60.4420. [40 CFR Part 60 Subpart KKKK]

Verification: The project owner shall provide CEMS emissions data to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-SC8**).

AQ-31 The emissions of particulate matter less than or equal to 10 microns in diameter (PM10) **from the exhaust stack of each combustion turbine** shall not exceed ~~5.05~~ 5 pounds per hour for each combustion turbine. **Compliance with this limit shall be demonstrated based upon source testing and calculated as the average of three ~~subsets~~ subtests.** [Rule 20.3(**d**)(1) and (d)(2)]

Verification: Source tests demonstrating compliance with this condition shall be provided to the CPM and are due within the timeframes specified in Conditions **AQ-48** and **AQ-49**.

AQ-59 A continuous emission monitoring system (CEMS) shall be installed on each combustion turbine and properly maintained and calibrated to measure, calculate, and record the following, in accordance with the District approved CEMS Protocol:

- a. **Clock h** Hourly average(~~s~~) concentration of oxides of nitrogen (NO_x) **in parts per million by volume on a dry basis (ppmvd), both** uncorrected and corrected to 15% oxygen, in parts per million (ppmvd), ~~necessary to demonstrate compliance with the NO_x limits of this permit;~~
- b. **Clock h** Hourly average concentration of carbon monoxide (CO) **in parts per million by volume on a dry basis (ppmvd), both** uncorrected and corrected to 15% oxygen, in parts per million (ppmvd), ~~necessary to demonstrate compliance with the CO limits of this permit;~~
- c. Percent oxygen (O₂) in the exhaust gas for each unit operating minute;
- d. **Clock h** Hourly mass emissions of oxides of nitrogen (NO_x), **calculated as NO₂**, in pounds;
- e. Cumulative mass emissions of oxides of nitrogen (NO_x), **calculated as NO₂**, in each startup and shutdown period, in pounds;
- f. **Calendar d** Daily mass emissions of oxides of nitrogen (NO_x), **calculated as NO₂**, in pounds;
- g. Calendar monthly mass emissions of oxides of nitrogen (NO_x), **calculated as NO₂**, in pounds;
- h. Rolling ~~four~~ 4-unit-operating-hour average concentration of oxides of nitrogen (NO_x) corrected to 15% oxygen, in parts per million **by volume dry on a dry basis (ppmvd) corrected to 15% oxygen;**

- i. Rolling ~~four~~ 4-unit-operating-hour average oxides of nitrogen (NOx) emission rate, **calculated as NO₂**, in pounds per megawatt-hour (MWh);
- j. Calendar quarter, calendar year, and rolling 12-calendar-month period mass emissions of oxides of nitrogen (NOx), **calculated as NO₂**, in tons;
- k. Cumulative mass emissions of carbon monoxide (CO) in each startup and shutdown period, in pounds;
- l. **Clock h**Hourly mass emissions of carbon monoxide (CO), in pounds;
- m. **Calendar d**Daily mass emission of carbon monoxide (CO), in pounds;
- n. Calendar monthly mass emission of carbon monoxide (CO), in pounds;
- o. Rolling 12-calendar-month period mass emission of carbon monoxide (CO), in tons;
- p. Average concentration of oxides of nitrogen (NOx) and carbon monoxide (CO) **in parts per million by volume on a dry basis (ppmvd), both** uncorrected and corrected to 15% oxygen, ~~in parts per million (ppmvd)~~, during each unit operating minute; **and**
- q. Average emission rate in pounds per hour of oxides of nitrogen (NOx), **calculated as NO₂**, and carbon monoxide (CO) during each unit operating minute.

[Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75]

Verification: The project owner shall submit to the CPM for review and the District for approval a CEMS protocol, as required by **AQ-60**, which includes description of the methods of compliance with the requirements of this condition. The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.

TRANS-9 Pilot Notification and Awareness - The project owner shall initiate the following actions to ensure pilots are aware of the project location and potential hazards to aviation:

- Submit a letter to the FAA requesting a Notice to Airmen (NOTAM) be issued advising pilots of the location of the PPEC and recommending avoidance of overflight of the project site below 1,720 **2,000** feet AGL. The letter should also request that the NOTAM be maintained in active status until **the Los Angeles Section Chart** ~~charts~~ and Airport Facility Directories (AFDs) have been updated.
- Submit a letter to the FAA requesting a power plant depiction symbol be placed at the PPEC site location on the Los Angeles San Diego Sectional Chart with a notice to “avoid overflight below 1,720 **2,000** feet AGL”.
- Submit a request to and coordinate with the Brown Field **Municipal** Airport Manager to add a new remark to the Automated Surface Observing System (ASOS) identifying the location of the PPEC and advising pilots to avoid direct overflight below 1,720 **2,000** feet AGL as they approach or depart the airport.
- Request that Southern California TRACON and/or the San Diego Air Traffic Control Center submit aerodrome remarks describing the location of the PPEC plant and advising against direct overflight below 1,720 **2,000** feet AGL to the:
- ~~FAA AeroNav Services, formerly the FAA National Aeronautical Charting Office (Airport Facility Directory)~~ FAA Airport Facility Directory – Southwest U.S.;
- ~~Jeppesen Sanderson Inc. (Jeppesen Airway Manual Services – Western U.S. Airport Directory); and (JEPPGuide Airport Directory, Western Region)~~
- ~~Airguide Publications (Flight Guide, Western States)~~ Pilots Guide to California Airports.

Verification: Within 30 days following the start of construction of the **heat input components**, the project owner shall submit draft language for the letters of request to the FAA (including Southern California TRACON) and Brown ~~field~~ **Field Municipal** Airport to the CPM for review and approval.

At least 60 days prior to the start of operations, the project owner shall submit the required letters of request to the FAA and request that Southern California TRACON submit aerodrome remarks to the listed agencies. The project owner shall submit copies of these requests to the CPM. A copy of any resulting correspondence shall be submitted to the CPM within 10 days of receipt.

If the project owner does not receive a response from any of the above agencies within 45 days of the request (or by 15 days prior to the start of operations) the project owner shall follow up with a letter to the respective agency/ies to confirm implementation of the request. A copy of any resulting correspondence shall be submitted to the CPM within 10 days of receipt.

The project owner shall contact the CPM within ~~72 hours~~ **10 days** if notified that any or all of the requested notices cannot be implemented. Should this occur, the project owner shall appeal such a determination, consistent with any established appeal process and in consultation with the CPM. A final decision from the jurisdictional agency denying the request, as a result of the appeal process, shall release the project owner from any additional action related to that request and shall be deemed in compliance with that portion of this condition of certification.