

DOCKETED

Docket Number:	07-AFC-06C
Project Title:	Carlsbad Energy Center - Compliance
TN #:	204036
Document Title:	Project Owner's Proposed Errata to Air Quality Conditions of Certification
Description:	N/A
Filer:	Dee Hutchinson
Organization:	Locke Lord LLP
Submitter Role:	Applicant Representative
Submission Date:	4/1/2015 9:58:53 AM
Docketed Date:	4/1/2015

STATE OF CALIFORNIA
Energy Resources Conservation
and Development Commission

In the Matter of:

DOCKET NO. 07-AFC-06C

Petitions to Amend The
CARLSBAD ENERGY CENTER PROJECT

Petition to Amend the Carlsbad Energy Center Project (07-AFC-06C)
Project Owner's Proposed Errata to
Air Quality Conditions of Certification

Project Owner has reviewed and compared the Staff's FSA Supplement (TN-203891, Ex. 2001) and the San Diego Air Pollution Control District's Final Determination of Compliance (TN-203924, Ex. 2002), and proposes the following errata changes to correct typographical errors in the FSA Supplement as compared with the FDOC. The following COCs require errata changes in the FSA: AQ-28; AQ-33; AQ-34; AQ-40; AQ-43; AQ-60; AQ-68; AQ-73; AQ-84; AQ-91; AQ-98; and AQ-104.

Language that Project Owner proposes removing is formatted in ~~**bold strikethrough**~~. Language that Project Owner proposes adding is formatted in **bold underline**. These changes are proposed to ensure that the CEC's Conditions of Certification are consistent with the FDOC.

AQ-28

When a combustion turbine is operating, the volatile organic compound (VOC) concentration, calculated as methane, measured in the exhaust stack, shall not exceed ~~4.5~~ **2.0** ppmvd corrected to 15 percent oxygen and averaged over a one-clock-hour period, except during commissioning, startup, and shutdown periods for that turbine. For purposes of determining compliance based on the CEMS, the District approved CO/VOC surrogate relationship, and the CO CEMS data, averaged over a one-clock-hour period shall be used. The CO/VOC surrogate relationship shall be verified and/or modified, if necessary, based on source testing. [Rule 20.3(d) (1)]

AQ-33

For each rolling four 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 dry (ppmvd) corrected to 15% oxygen or, alternatively, as elected by the Applicant, 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 unit operating hour period including the operating-hour and three unit operating-hours immediately preceding. 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:

	Case	Emission Limit, ppm	Emission Limit, lb/MWh
i.	All four hours at or above 75% Load	15	0.43
ii.	All four hours below 75% Load	96	4.7
iii.	Combination of hours	$(a \times 15 + b \times 96)/4$	$(a \times 0.43 + b \times 4.7)/4$

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

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 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 **hours hour** shall have the meaning as defined in 40 CFR 60.4420. [40 CFR Part 60 Subpart KKKK]

AQ-34

The emissions of particulate matter less than or equal to ten microns in diameter (PM10) shall not exceed 5.0 pounds per **clock**-hour for each combustion turbine. [Rule 20.3(d)(1),(2)]

AQ-40

Cumulative mass emissions of oxides of nitrogen (NOx), calculated as NO2; carbon monoxide (CO); and volatile organic compounds (VOC), calculated as methane, during a combustion turbine's shutdown period shall not exceed the following limits during any shutdown period, except during that turbine's commissioning period.

<u>Pollutant</u>	<u>Emission Limit, lb</u>
a) NO _x	0.6
b) CO	3.4
c) VOC	2.4

[Rule 20.3(d)(1)]

AQ-43

Total emissions from the equipment authorized to be constructed under this permit, except emissions or emission units excluded from the calculation of aggregate potential to emit as specified in Rule 20.1 (d) (1) as it exists on the date the permit to operate for this equipment is approved and except for CO emissions during any rolling 12-calendar month period in which a turbine commissioning period occurs, shall not exceed the following limits for each rolling 12-calendar-month period, beginning with the 12-calendar-month period ~~beginning~~ **that begins** with the month in which the earliest initial startup among the equipment authorized to be constructed under this permit occurs:

	Pollutant	Emission Limit, tons per year
a.	NO _x	84.18
b.	CO	77.8
c.	VOC	24.1
d.	PM ₁₀	28.4
e.	SO _x	5.6

The aggregate emissions of each pollutant shall include emissions during all times that the equipment is operating, except for CO emissions during any rolling 12-calendar month period in which a turbine commissioning period occurs. All calculations performed to show compliance with this limit shall be performed according to a protocol approved in advance by the District. [Rules 20.3(d)(2), 20.3(d)(5), 20.3(d)(8), and 21]

AQ-60

Not later than 60 calendar days after completion of the commissioning period for each combustion turbine, an Initial Emissions Source Test shall be conducted on that turbine to demonstrate compliance with the NO_x, CO, VOC, PM₁₀, and ammonia emission standards of this permit. The source test protocol shall comply with all of the following requirements:

- a) Measurements of NO_x, **and** CO concentrations and emissions and oxygen (O₂) concentration shall be conducted in accordance with U.S. Environmental Protection Agency (EPA) methods 7E, 10, and 3A, respectively, and District source test Method 100, or alternative methods approved by the District and EPA;

- h)** Measurements of particulate matter emissions shall be conducted in accordance with SDAPCD Method 5 or an alternative method approved by the District and EPA;

AQ-68, subparagraph I

I. Rolling four unit operating hour average oxides of nitrogen (NO_x) **calculated as NO₂** emission rate, in pounds per megawatt-hour (MWh);

AQ-73

The CEMS shall be in operation in accordance with the District approved CEMs protocol at all times. ~~When~~ when the turbine is in operation. A copy of the District approved CEMS monitoring protocol shall be maintained on site and made available to District personnel upon request. [Rules 69.3, 69.3.1, and 20.3(d)(1) and 40 CFR Part 60 Subpart KKKK, and 40 CFR Part 75]

AQ-84

Within thirty calendar days after the end of the commissioning period for each combustion turbine, the project owner shall submit a written report to the District. This report shall include, **at** a minimum, the date the commissioning period ended, startup and shutdown periods, the emissions of NOX and CO during startup and shutdown periods, and the emissions of NOX and CO during steady state operation:

- a. Concentration of oxides of nitrogen (NOx) uncorrected and corrected to 15% oxygen, in parts per million (ppmvd);
- b. Concentration of carbon monoxide (CO) uncorrected and corrected to 15% oxygen, in parts per million (ppmvd);
- c. Percent oxygen (O2) in the exhaust gas;
- d. Mass emissions of oxides of nitrogen (NOx) calculated as NO2, in pounds;
- e. Cumulative mass emissions of oxides of nitrogen (NOx) calculated as NO2 in each startup and shutdown period, in pounds;
- f. Cumulative mass emissions of carbon monoxide (CO) in each startup and shutdown period, in pounds
- g. Mass emissions of carbon monoxide (CO), in pounds;
- h. Total heat input to the combustion turbine based on the fuel's higher heating value, in million British thermal units per hour (MMBtu/hr);
- i. Higher heating value of the fuel on an hourly basis, in million British thermal units per standard cubic foot (MMBtu/scf);
- j. Gross electrical power output of the turbine, in megawatts hours (MWh) for each hour;
- k. SCR outlet temperature, in degrees Fahrenheit; and
- l. Water injection rate in gallons per minute (gpm) or pounds per hour (lb/hr).

The hourly average information shall be submitted in writing and in an electronic format approved by the District. The minute-by-minute information shall be submitted in an electronic format approved by the District. [Rules 69.3, 69.3.1, 20.3(d)(1) and 20.3(d)(2)]

AQ-91

The engine shall be EPA certified to the applicable emissions requirements for emergency fire pump engines of 40 CFR Part 60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, based on the power

rating of the engine and the engine model year. [40 CFR Part 60 Subpart IIII, and 40 CFR Part 63 Subpart ZZZZ, 17 CCR §93115]

AQ-98

This engine shall not operate for non-emergency use during the following periods, as applicable:

- a) Whenever there is any school sponsored activity, if engine is located on school grounds or
- b) Between 7:30 and 3:30 PM on days when school is in session, if the engine is located within 500 feet of, but not on school grounds.

This condition shall not apply to an engine located at or near any school grounds that also serve as the student's place of residence. ~~(ATCM reportable)~~ [17 CCR §93115]

AQ-104

The owner or operator of this engine shall maintain a monthly operating log containing, at a minimum, the following:

- a) Dates and times of engine operation, whether the operation was for compliance with the testing requirements of National Fire Protection Association (NFPA) **25** or emergency use, and the nature of the emergency, if known;
- b) Hours of operation for all uses other than those specified above and identification of the nature of that use.

[Rule 69.4.1, 40 CFR 60 subpart IIII and 17 CCR §93115]