

DOCKETED	
Docket Number:	12-AFC-02C
Project Title:	Huntington Beach Energy Project - Compliance
TN #:	229082
Document Title:	Staff Approval of Proposed Change
Description:	N/A
Filer:	Joe Douglas
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	7/25/2019 9:54:08 AM
Docketed Date:	7/25/2019

CALIFORNIA ENERGY COMMISSION

1516 Ninth Street
Sacramento, California 95814

Main website: www.energy.ca.gov
CEC-57 (Revised 1/19)



STAFF APPROVAL OF PROPOSED CHANGE

HUNTINGTON BEACH ENERGY PROJECT (HBEP)

(12-AFC-02C)

On July 5, 2018, AES Huntington Beach Energy, LLC (project owner) filed a petition requesting to change the commissioning parameters of the auxiliary boiler at the Huntington Beach Energy Project (HBEP). The 844-megawatt (MW), natural gas-fired, combined-cycle electric generating facility was certified by the California Energy Commission (Energy Commission) on May 31, 2017. Project construction began on June 2, 2017. The facility is located at 21730 Newland Street, Huntington Beach.

DESCRIPTION OF PROPOSED CHANGE

This petition includes the following changes:

- Clarify that Conditions of Certification **AQ-19** and **AQ-20** exempt commissioning activities from the condition limits for oxides of nitrogen (NO_x) and carbon monoxide (CO), similar to the treatment of start-up emissions. Maximum allowable emission limits for the facility would not change;
- Modify Condition of Certification **AQ-9** to: (1) include an omitted CO emission factor for the auxiliary boiler for the time period between initial startup and when the continuous emissions monitoring system has been certified by the South Coast Air Quality Management District (SCAQMD or District) and (2) correct the maximum allowable monthly volatile organic compound (VOC) emissions; and
- Clarify that the number of auxiliary boiler fired commissioning hours is limited to no more than 100 hours (new permit condition from the SCAQMD).

The petition is available on the Energy Commission's HBEP webpage at https://ww2.energy.ca.gov/sitingcases/huntington_beach_energy/.

ENERGY COMMISSION STAFF REVIEW AND CONCLUSIONS

Title 20, California Code of Regulations, section 1769 states that a project owner shall submit a post certification petition for (1) changes in project design, operation or performance, and (2) amendments to an Energy Commission Final Decision.

Energy Commission technical staff reviewed the petition for potential environmental effects and consistency with applicable laws, ordinances, regulations, and standards (LORS). Staff has concluded that the only technical or environmental area affected by the proposed changes is Air Quality.

Staff's conclusions for each technical or environmental area are summarized in the table below.

Summary of Staff Responses to Proposed Changes

TECHNICAL / ENVIRONMENTAL AREAS REVIEWED	STAFF RESPONSE	
	Technical Area Not Affected	No Significant Environmental Impact or LORS Inconsistency
Air Quality		X
Biological Resources	X	
Cultural Resources	X	
Efficiency	X	
Facility Design	X	
Geological Resources	X	
Hazardous Materials Management	X	
Land Use	X	
Noise & Vibration	X	
Paleontological Resources	X	
Public Health	X	
Reliability	X	
Socioeconomics	X	
Soil & Water Resources	X	
Traffic & Transportation	X	
Transmission Line Safety & Nuisance	X	
Transmission System Engineering	X	
Visual Resources	X	
Waste Management	X	
Worker Safety & Fire Protection	X	

For the Air Quality technical area, it has been determined the project would continue to comply with applicable LORS, although changes in conditions of certification are required. Staff notes the following for Air Quality:

AIR QUALITY

SUMMARY OF CONCLUSIONS

Staff concludes that with the adoption of the attached revised conditions of certification, the amended HBEP would not result in significant adverse air quality related impacts. HBEP would continue to comply with all applicable conditions of certification and federal, state, and SCAQMD or air quality LORS.

Staff has consulted with the SCAQMD and has determined that there is no possibility that the change may have a significant effect on the environment and that no daily, quarterly, annual or other emission limit will be increased as a result of the change.

INTRODUCTION

On July 2, 2019, the owner filed a petition for a post-certification project change requesting staff approval to modify the auxiliary boiler commissioning conditions.

The proposed modification does not include any new sources of emissions nor modifications to the existing sources of emissions. This amendment modifies and adds corresponding conditions of certification for auxiliary boiler commissioning. The requested changes to the conditions are as follows:

- **AQ-19** and **AQ-20**: clarify that auxiliary boiler commissioning activities would be exempted from the condition limits for NO_x and CO, similar to the treatment of start-up emissions. Maximum allowable emission limits for the facility will not change.
- **AQ-9**: (1) include an omitted CO emission factor for the auxiliary boiler during the time between initial startup and when the Continuous Emissions Monitoring System (CEMS) is certified by the SCAQMD; and, (2) corrects the maximum allowable monthly VOC emission numbers.
- propose to add a new condition to limit the auxiliary boiler commissioning to no more than 100 hours.

Staff accepts the changes in **AQ-19** and **AQ-20**. Staff rejects the proposed changes in **AQ-9** and the new condition but proposes corresponding changes to address the project owner's concepts. Staff also includes additional modifications to several Air Quality Conditions of Certification to incorporate the changes from the most recent update to the District RECLAIM/Title V Permit dated July 12, 2019.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS COMPLIANCE

HBEP is subject to all the LORS described in the Energy Commission decision for HBEP. The applicable LORS remain the same as previous decision; the requested changes would enable the facility to continue to comply with all applicable LORS.

ANALYSIS OF REQUESTED CHANGES

Auxiliary Boiler NO_x and CO Emission Limits

The NO_x and CO emission limits in Conditions **AQ-19** and **AQ-20** assume the best available control technology is in use on the auxiliary boiler at normal operation conditions. During commissioning, the emission controls systems (selective catalytic reduction, ultra-low NO_x burners, and flue gas recirculation) are either not operational or operating at less than design specifications. Therefore, the commissioning phase is generally exempted

from the normal operation emission limits. Staff agrees with the proposed changes. The same changes were analyzed by the District and are included in the revised Title V permit.

Auxiliary Boiler VOC Monthly Emissions and CO Monitoring

The project owner claims that the VOC limit in **AQ-9** (87 lbs/month) is an error from the original District Title V permit and requests to change the limit to 104 lbs/month. Both District and staff verified that the original limit is correct and therefore rejects the change. However, staff adds additional language to clarify that the emission limits in **AQ-9** only apply to the post-commissioning auxiliary boiler operation.

The project owner would use a CEMS on the auxiliary boiler to measure and report CO emissions instead of using the CO emission factor. Compliance with the CO emission limit would be determined by the direct measurement and reports from the CEMS. Staff proposes to add corresponding language in **AQ-9** and to modify condition **AQ-48** to reflect the use the CO CEMS.

Auxiliary Boiler Commissioning Hours Limit

The project owner proposes to limit the commissioning of the auxiliary boiler to 100 hours to provide sufficient flexibility and an orderly commissioning. Since the commissioning would be conducted at various loads with different emission rates, staff proposes to add a new condition **AQ-9a** to limit the total commissioning period emissions instead of commissioning hours as proposed by the project owner. The total commissioning emissions would be based on the operation at 10% load for 16 hours, 25% load for 16 hours, 50% load for 28 hours, 75% load for 24 hours and 100% load for 16 hours (100 hours in total). The District included the same changes in the revised Title V permit.

In addition to the above requested changes by the project owner, staff also proposes the following two modifications already incorporated into the revised District Title V permit: 1) reduce the annual heat input limit of the auxiliary boiler in **AQ-31**. The commissioning operation would increase from 30 hours in commission decision to 100 hours. The reduction of annual heat input would limit the total operations in the first year while maintaining the annual emissions unchanged; 2) add a new condition **AQ-11a** to specify the NOx factor (49.18 lbs/mmcf) for auxiliary boiler for RECLAIM reporting purposes prior to CEMS certification. The factor is in SCAQMD Rule 2002.

CONCLUSIONS AND RECOMMENDATIONS

The requested changes would conform to applicable federal, state, and District LORS. Therefore, the amended facility would not cause any significant adverse air quality impacts if the following conditions of certification would be included. Staff approves the revised conditions of certification as shown below.

AMENDED CONDITIONS OF CERTIFICATION

Below is a list of conditions of certification that staff approves to be revised from those approved in the 2017 Energy Commission Final Decision. ~~Strikethrough~~ indicates deleted language and **underline and bold** is used for new language.

AQ-9 The project owner shall limit emissions from this equipment as follows:

CONTAMINANT	EMISSIONS LIMIT
PM10	Less than or equal to 120 LBS IN ANY ONE MONTH
CO	Less than or equal to 650 LBS IN ANY ONE MONTH
VOC	Less than or equal to 87 LBS IN ANY ONE MONTH

The above limits apply in the month when post-commissioning operation begins and every month thereafter. During the month when post commissioning operation begins any emissions from commissioning activities shall be calculated using the factors in condition AQ-9a and added to the emissions from post commissioning operation calculated using the factors in this condition. Total emissions shall not exceed the limits in this condition.

The project owner shall calculate compliance with the emission limit(s) by using fuel use data and the following emission factors: VOC: 5.47 lbs/mmcf, PM10: 7.54 lbs/mmcf, CO: 41.9 lbs/mmcf.

The project owner shall calculate compliance with the emission limits for CO after the CO CEMS certification based upon reading from the SCAQMD certified CEMS.

The auxiliary boiler is subject to this condition.

Verification: The project owner shall provide emissions summary data in compliance with this condition as part of the Quarterly Operation Reports (AQ-SC8). The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-9a The project owner shall limit emissions from this equipment as follows:

<u>CONTAMINANT</u>	<u>EMISSIONS LIMIT</u>
<u>PM10</u>	<u>Less than or equal to 27 LBS IN ANY ONE MONTH</u>
<u>CO</u>	<u>Less than or equal to 152 LBS IN ANY ONE MONTH</u>
<u>VOC</u>	<u>Less than or equal to 20 LBS IN ANY ONE MONTH</u>

The above limits apply during commissioning. These limits are superseded by the limits in condition AQ-9 in the month when post commissioning operation begins.

The project owner shall calculate compliance with the emission limit(s) by using fuel use data and the following emission factors: VOC: 5.5 lbs/mmcf, PM10: 7.54 lbs/mmcf, CO: 41.9 lbs/mmcf.

The project owner shall calculate compliance with the emission limits for CO after the CO CEMS certification based upon reading from the SCAQMD certified CEMS.

The auxiliary boiler is subject to this condition.

Verification: The project owner shall provide emissions summary data in compliance with this condition as part of the Quarterly Operation Reports (AQ-SC8). The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-11a The 49.18 LBS/MMSCF NOx emission limit(s) shall only apply during the first year of operation prior to CEMS certification for reporting NOx emissions.

The auxiliary boiler is subject to this condition.

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

AQ-19 The 5.0 PPMV NOx emission limit(s) is averaged over 60 minutes at 3 percent O₂, dry. This limit shall not apply during boiler start ups, **or commissioning.**

The auxiliary boiler is subject to this condition.

Verification: The project owner shall submit CEMS records demonstrating compliance with this condition as part of the Quarterly Operation Reports(AQ-SC8).

AQ-20 The 50.0 PPMV CO emission limit(s) is averaged over 60 minutes at 3 percent O₂, dry. This limit shall not apply during boiler start ups, **or commissioning.**

The auxiliary boiler is subject to this condition.

Verification: The project owner shall submit CEMS records demonstrating compliance with this condition as part of the Quarterly Operation Reports (AQ-SC8).

AQ-31 The project owner shall limit the heat input to no more than ~~189,155~~ **121,408** MMBtu in any one calendar year.

The limit includes normal operation as well as start ups, and shutdowns, **and commissioning.** The heat input shall be calculated using the fuel use data and a natural gas HHV of 1,050 btu/mmcf.

Beginning 12 months after the date of first fire and every year thereafter, the project owner shall limit heat input to no more than 189,155 mmbtu per year. The limit includes normal operation as well as start ups and shutdowns. The heat input shall be calculated using the fuel use data and a natural gas HHV of 1,050 btu/mmcf.

The project owner shall maintain records, in a manner approved by the SCAQMD to demonstrate compliance with this condition.

The auxiliary boiler is subject to this condition.

Verification: The project owner shall submit fuel usage records and calculations required to demonstrate compliance with this condition as part of the Quarterly Operation Reports (AQ-SC8). The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

AQ-48 ~~The project owner shall conduct source test(s) for the pollutant(s) identified below.~~

Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Test Location
CO emissions	District Method 100.1	1 hour	Outlet of the SCR serving this equipment

~~The test shall be conducted at least once every three years, or in accordance with the schedule specified in Rule 1146.~~

~~The test shall be conducted and the results submitted to the SCAQMD within 60 days after the test date. The SCAQMD shall be notified of the date and time of the test at least 10 days prior to the test.~~

~~The test shall be conducted when this equipment is operating at 100 percent of maximum load.~~

~~In addition to the Method 100.1 test, the project owner shall also perform periodic CO emissions tests on the boiler with a portable analyzer in accordance with the schedule and specifications outlined in Rule 1146.~~

~~The auxiliary boiler is subject to this condition.~~

Verification: ~~The project owner shall submit the proposed protocol for the source tests no later than 45 days prior to the proposed source test date to both the District and CPM for approval. The project owner shall notify the District and CPM no later than 10 days prior to the proposed source test date and time. The project owners shall submit source test results no later than 60 days following the source test date to both the District and CPM.~~

The project owner shall install and maintain a CEMS to measure the following parameters:

CO concentration in ppmv

Concentrations shall be corrected to 3 percent oxygen on a dry basis. The CEMS shall be installed and operating no later than 90 days after initial startup of the boiler, in accordance with approved SCAQMD Rule 218 CEMS plan application. The project owner shall not install the CEMS prior to receiving initial approval from SCAQMD.

The CEMS shall be installed and operated to measure the CO concentration over a 15 minute averaging time period.

The CEMS shall convert the actual CO concentrations to mass emission rates (lbs/hr) using the equation below and record the hourly emission rates on a continuous basis.

CO Emission Rate, lbs/hr = $K \cdot C_{co} \cdot F_d [20.9 / (20.9\% - \%O_2 d)]^*$ [($Q_g \cdot HHV$)/10E6], where

1. $K = 7.267 \cdot 10^{-8}$ (lbs/scf)/ppm

2. C_{co} = Average of 4 consecutive 15 min. average CO concentrations, ppm

3. $F_d = 8710$ dscf/MMBTU natural gas

4. $\%O_2, d$ = Hourly average % by volume O_2 dry, corresponding to C_{co}

5. $Q_g =$ Fuel gas usage during the hour, scf/hr

6. $HHV =$ Gross high heating value of the fuel gas, BTU/scf

The auxiliary boiler is subject to this condition.

Verification: The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

ENVIRONMENTAL JUSTICE

Environmental Justice – Figure 1 shows 2010 census blocks in the six-mile radius of the HBEP with a minority population greater than or equal to 50 percent. The population in these census blocks represents an environmental justice (EJ) population based on race and ethnicity as defined in the United States Environmental Protection Agency's *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*. Staff

conservatively obtains demographic data within a six-mile radius around a project site based on the parameters for dispersion modeling used in staff’s air quality analysis. Air quality impacts are generally the type of project impacts that extend the furthest from a project site. Beyond a six-mile radius, air emissions have either settled out of the air column or mixed with surrounding air to the extent the potential impacts are less than significant. The area of potential impacts would not extend this far from the project site for most other technical areas included in staff’s EJ analysis.

Low Income

Based on California Department of Education data in the **Environmental Justice – Table 1**, staff concluded that the percentage of those living in the Fountain Valley Elementary, Huntington Beach City Elementary, Newport-Mesa Unified, and Ocean View Elementary school districts (in a six-mile radius of the project site) and enrolled in the free or reduced price meal program are comparatively fewer than those in the reference geography, and thus are not considered an EJ population based on low income as defined in *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*.

Environmental Justice – Figure 2 shows where the boundaries of the school district are in relation to the six-mile radius around the HBEP site.

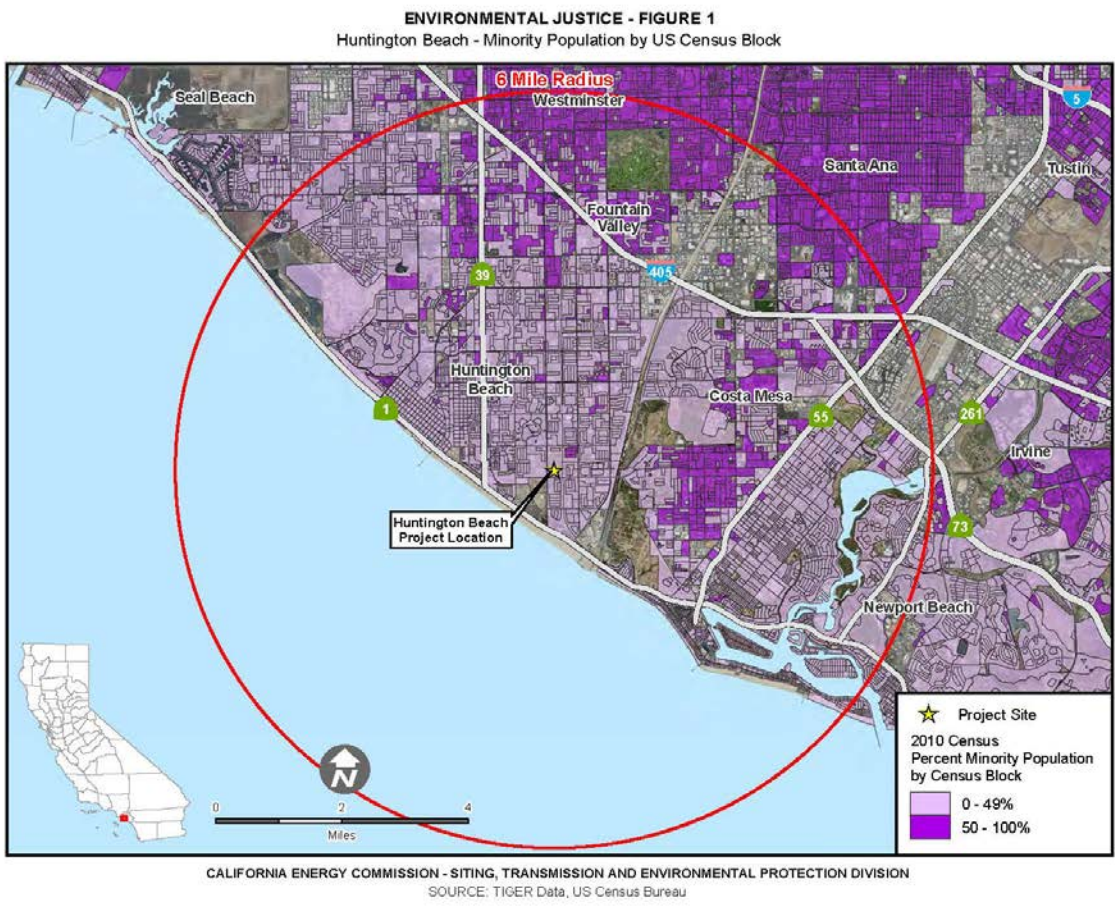
**Environmental Justice – Table 1
 Low Income Data within the Project Area**

ORANGE COUNTY SCHOOL DISTRICTS IN SIX-MILE RADIUS	Enrollment Used for Meals	Free or Reduced Price Meals	
Fountain Valley Elementary	6,362	1,585	24.9%
Huntington Beach City Elementary	7,073	1,406	19.9%
Newport-Mesa Unified	21,234	9,410	44.3%
Ocean View Elementary	8,263	3,857	46.7%
REFERENCE GEOGRAPHY			
Orange County	485,841	239,334	49.3%
<small>Source: CDE 2018. California Department of Education, DataQuest, Free or Reduced Price Meals, District level data for the year 2017-2018, <http://dq.cde.ca.gov/dataquest/>.</small>			

The following technical areas (if affected by the proposed project changes) consider impacts to EJ populations: Air Quality, Cultural Resources (indigenous people), Hazardous Materials Management, Land Use, Noise and Vibration, Public Health, Socioeconomics, Soil and Water resources, Traffic and Transportation, Transmission Line Safety and Nuisance, Visual Resources, and Waste Management.

ENVIRONMENTAL JUSTICE CONCLUSIONS

Air Quality is the technical area listed above affected by the proposed changes. In the Air Quality analysis, staff proposes changes to conditions of certification. Staff has concluded that by adopting the proposed changes to the existing conditions of certification, the project would not cause significant air quality impacts for any population in the project's six-mile radius, including the EJ population represented in **Environmental Justice - Figure 1**. Impacts to the EJ population are less than significant.



ENERGY COMMISSION STAFF DETERMINATION

Pursuant to Title 20, California Code of Regulations, section 1769(a)(3), Energy Commission staff has determined for this petition that approval by the Commission at a noticed business meeting or hearing is not required and the proposed changes meet the criteria for approval by staff because:

(A)

- i. there is no possibility that the change may have a significant impact on the environment, or the project is exempt from the California Environmental Quality Act;
- ii. the change would not cause the project to fail to comply with any applicable laws, ordinances, regulations, or standards; and

(B)

- iii. that no daily, quarterly, annual, or other emission limit will be increased as a result of the change.

WRITTEN COMMENTS

This statement of staff's approval of the proposed project changes has been filed in the docket for this project (12-AFC-2C). Pursuant to section 1769(a)(3)(C), any person may file an objection to staff's determination within 14 days of the filing of this statement on the grounds that the project change does not meet the criteria set forth in sections 1769(a)(3)(A) and (B). Absent any objections as specified in 1769(a)(3)(C), this petition will be approved 14 days after this statement is filed.

Written comments or objections to staff's determination may be submitted using the Energy Commission's e-Commenting feature, as follows: Go to the Energy Commission's Huntington Beach Energy Project webpage and click on either the "Comment on this Proceeding," or "Submit e-Comment" link. Provide contact information—a full name, email address, comment title, and either a comment or attached document. The comment title should be "[Your Name]'s Comments re Huntington Beach Energy Project Determination." Type your comments into the "Comment Text" field, or upload a document with your comments. The maximum upload file size is 10MB, and only .doc, .docx, or .pdf attachments will be accepted. Enter the CAPTCHA that is used to prevent spamming. Then click on the "Agree and Submit your Comments" button to file your comments. When your comments are filed, you will receive an email with a link to them.

Written comments or objections may also be mailed or hand-delivered to:

California Energy Commission
Dockets Unit, MS-4
Docket No. 12-AFC-2C
1516 Ninth Street
Sacramento, CA 95814-5512

All comments and materials filed with the Dockets Unit will be added to the facility Docket Log and be publically accessible on the Energy Commission's webpage for the facility.

If you have questions about this notice, please contact Christine Root, Compliance Office Manager, at (916) 654-4745, or by fax to (916) 654-3882, or via e-mail at Christine.Root@energy.ca.gov.

For information on public participation, please contact the Public Adviser, at (916) 654-4489 or (800) 822-6228 (toll-free in California) or send your e-mail to publicadviser@energy.ca.gov.

News media inquiries should be directed to the Energy Commission Media Office at (916) 654-4989, or by e-mail at mediaoffice@energy.ca.gov.

List Serve: Huntington Beach Energy Project Listserv