DOCKETED	
Docket Number:	05-AFC-02C
Project Title:	The Walnut Creek Energy Park
TN #:	238450
Document Title:	Walnut Creek Energy Park - Staff Analysis of Application for Modification - Increase Turbine
Description:	Walnut Creek Energy Park (05-AFC-02C) Staff Analysis of Application for Modification Increase Turbine Heat Input Rating
Filer:	susan fleming
Organization:	California Energy Commission
Submitter Role:	Commission Staff
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CALIFORNIA ENERGY COMMISSION

DATE: **June 23, 2021**

TO: Interested Parties

FROM: Eric Veerkamp, Compliance Project Manager

SUBJECT: **Walnut Creek Energy Park (05-AFC-02C)**
Staff Analysis of *Application for Modification: Increase Turbine Heat Input Rating*

On March 16, 2021, Walnut Creek Energy, LLC (WCE) filed *Application for Modification: Increase Turbine Heat Input Rating*, (petition) with the California Energy Commission (CEC), requesting to modify the Walnut Creek Energy Park (WCEP) hourly fuel input and ammonia flow rates resulting in higher turbine output, for a net increase of approximately 17.4 megawatts (MW).

The WCEP is a 500.5 MW gas-fired simple-cycle facility located at 911 Bixby Drive in the City of Industry, Los Angeles County. The project was certified by the CEC in February 2008 and began commercial operation in May 2013.

CEC staff has reviewed the petition pursuant to Title 20, California Code of Regulations, section 1769 (Post Certification Amendments and Changes) and has concluded that the changes to the Air Quality Conditions of Certification would not result in a significant impact on the environment, or cause the project to not comply with applicable laws, ordinances, regulations, and standards (LORS). Staff intends to recommend approval of the petition at the June 25, 2021 Business Meeting of the CEC.

The CEC's webpage for this facility, https://ww2.energy.ca.gov/sitingcases/walnutcreek/ has a link to the petition and the Staff Analysis on the right side of the webpage in the box labeled "Compliance Proceeding." Click on the "Documents for this Proceeding (Docket Log)" option. If approved, the CEC's Order approving this petition will also be available from the same webpage.

This letter has been mailed to the CEC's list of interested parties and property owners adjacent to the facility site. It has also been emailed to the Siting listserv. The listserv is an automated CEC email system by which information about this facility is emailed to parties who have subscribed. To subscribe, go to the CEC's webpage for this facility, cited above, scroll down the right side of the project's webpage to the box labeled "Subscribe," and provide the requested contact information.

Any person may comment on the Staff Analysis. Those who wish to comment on the analysis are asked to submit their comments by June 23, 2021. To use the CEC's

electronic commenting feature, go to the CEC's webpage for this facility, cited above, click on the "Submit e-Comment" link, and follow the instructions in the on-line form. Be sure to include the facility name in your comments. Once submitted, the CEC Dockets Unit reviews and approves your comments, and you will receive an email with a link to them.

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

California Energy Commission
Dockets Unit, MS-4
Docket No. **[05-AFC-02C]**
1516 Ninth Street
Sacramento, CA 95814-5512

All comments and materials filed with and approved by the Dockets Unit will be added to the facility Docket Log and become publicly accessible on the CEC's webpage for the facility.

If you have questions about this notice, please contact Eric Veerkamp, Compliance Project Manager, at (916) 661-8458, or via email at eric.veerkamp@energy.ca.gov.

For information on participating in the CEC's review of the petition, call Noemi O. Gallardo´, Public Adviser, at (916) 654-4489 or (800) 822-6228 (toll-free in California) or send your email to publicadviser@energy.ca.gov.

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

Mail List: 7096
Listserv: Walnut Creek Energy Park

WALNUT CREEK ENERGY PARK (05-AFC-02C)
Petition to Amend Commission Decision
EXECUTIVE SUMMARY

Eric Veerkamp

INTRODUCTION

On March 16, 2021, Walnut Creek Energy, LLC filed an *Application for Modification: Increase Turbine Heat Input Rating* (petition)with the CEC requesting modification of the WCEP hourly fuel input and ammonia flow rates resulting in higher turbine output, for a net increase of approximately 17.4 megawatts (MW). Staff has completed its review of all materials received.

The purpose of the CEC's review process is to assess whether the proposed amendment would have a significant impact on the environment or cause the project to not comply with applicable laws, ordinances, regulations, and standards (Cal. Code Regs., tit. 20, § 1769).

The scope of the analysis conducted by staff under Section 1769 is limited to an evaluation of the incremental impacts, if any, of the proposed modifications to the project on the environment, as well as a determination of the consistency of the proposed modifications with the applicable LORS. The analysis of the proposed changes must be consistent with the requirements of CEQA Guidelines section 15162, which limits additional environmental review to any "substantial changes" that will result in greater environmental impacts than what was analyzed in the Commission Final Decision (Decision). Under section 15162, the CEC may rely on the Decision for areas that will not have substantial changes. Here, staff has concluded that the proposed modifications to the Air Quality Conditions of Certification do not include any "substantial changes" that would result in any new significant environmental impacts or a substantial increase in the severity of previously identified significant effects that would require additional analysis.

Staff has determined that for all other technical areas, the proposed changes would have no impact on the environment or cause the project to not comply with applicable LORS.

PROJECT LOCATION AND DESCRIPTION

The WCEP is a 500.5 MW simple-cycle facility located in the City of Industry, Los Angeles County. The project was certified by the CEC in February 2008 and began commercial operation in May 2013.

The WCEP was licensed as simple-cycle generating project operating five General Electric LMS100 simple cycle natural gas turbines. In such simple-cycle arrangement,

there are no heat recovery steam generators, duct burners, or steam turbines in operation at this plant. There are no physical modifications associated with this project.

DESCRIPTION OF PROPOSED MODIFICATIONS

The modifications proposed in this petition to amend include the following:

1. Change the input heat input rating of the SCGTs in the equipment description from 891.7 MMBtu per hour to 951.0 MMBtu per hour to enable the Facility to achieve 500.5 MW net;
2. A modification of COC **AQ-3** and **AQ-4** (SCAQMD Condition A99.1 and A195.2) to change the NOx concentration limit from 2.5 ppm to 2.3 ppm for each of the five SCGTs and to add language exempting each of the five SCGTs from the 2.3 ppm limit during tuning events twice per year;
3. A modification of COC **AQ-6** (SCAQMD Condition C1.5) to add a daily fuel use limit of no more than 20.7 mmscf (or heat input of 21,735 mmbtu) per day for each of the five SCGTs; and
4. A modification of COC **AQ-12** (SCAQMD Condition D12.2) to change the ammonia injection rate limit from 215 lb/hr to 265 lb/hr for each of the five SCGTs so that the COC is consistent with the SCAQMD permit.

NECESSITY FOR THE PROPOSED MODIFICATIONS

The primary purpose and need for this petition is to accommodate substantial changes in circumstances since CEC certification. Improved technology has become available allowing a more efficient combustion process, while accompanied by discreet changes to air quality impacts. The modifications would also address the state's urgent need for additional capacity. The changes would be accomplished by increasing the efficiency of the combustion process to maximize the capability of the plant, resulting in an increased net output of 17.4 MW, for a total net output across all five units of 500.5 MW.

STAFF'S ASSESSMENT OF THE PROPOSED AMENDMENT

CEC technical staff reviewed the petition for potential environmental effects and consistency with applicable LORS. A summary of staff's conclusions reached for each technical area are summarized in **Executive Summary Table 1**. The details of the proposed changes to conditions of certification can be found under the **Air Quality** section in this Staff Analysis.

Staff has determined that the technical or environmental areas of Biological Resources, Cultural Resources, Efficiency, Facility Design, Geological and Paleontological Resources, Hazardous Materials Management, Land Use, Noise and Vibration, Reliability, Socioeconomics, Soil and Water Resources, Traffic and Transportation, Transmission

Line Safety and Nuisance, Transmission System Engineering, Visual Resources, Waste Management, and Worker Safety and Fire Protection are not affected by the proposed project modifications.

Staff determined that the technical area of **Air Quality** would be affected by the proposed project changes and has proposed new and revised conditions of certification in order to assure compliance with LORS and/or to reduce potential environmental impacts to a less than significant level.

For the technical areas of **Public Health** and **Greenhouse Gases** staff has concluded that the proposed changes would not result in a significant impact on the environment or cause the project to not comply with applicable LORS.

Executive Summary Table 1
Summary of Impacts to Each Technical Area

Technical Areas Reviewed	Technical Area Not Affected	CEQA			Conforms with applicable LORS	Revised or New Conditions of Certification requested or recommended
		Potentially significant impact	Less than significant impact with mitigation	Less than significant impact		
Air Quality				X		X
Biological Resources	X					
Cultural Resources	X					
Efficiency	X					
Facility Design	X					
Geological and Paleontological Resources	X					
Greenhouse Gases				X		
Hazardous Materials Management	X					
Land Use	X					
Noise and Vibration	X					
Public Health				X		
Paleontological Resources	X					
Public Health	X					
Reliability	X					
Socioeconomics	X					
Soil and Water Resources	X					
Traffic and Transportation	X					
Transmission Line Safety & Nuisance	X					
Transmission System Engineering	X					
Visual Resources	X					
Waste Management	X					
Worker Safety and Fire Protection	X					

ENVIRONMENTAL JUSTICE

Environmental Justice – Figure 1 shows 2010 census blocks in the six-mile radius of the Walnut Creek Energy Park 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.

Based on California Department of Education data in the **Environmental Justice – Table 1**, staff concluded that the percentage of those living in the Baldwin Park Unified, Bassett Unified, Hacienda la Puente Unified, La Habra City Elementary, Mountain View Elementary, Rowland Unified, and Whittier City Elementary school districts (in a six-mile radius of the project site) and enrolled in the free or reduced price meal program is larger than those in the reference geography, and thus are 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 Walnut Creek Energy Park site.

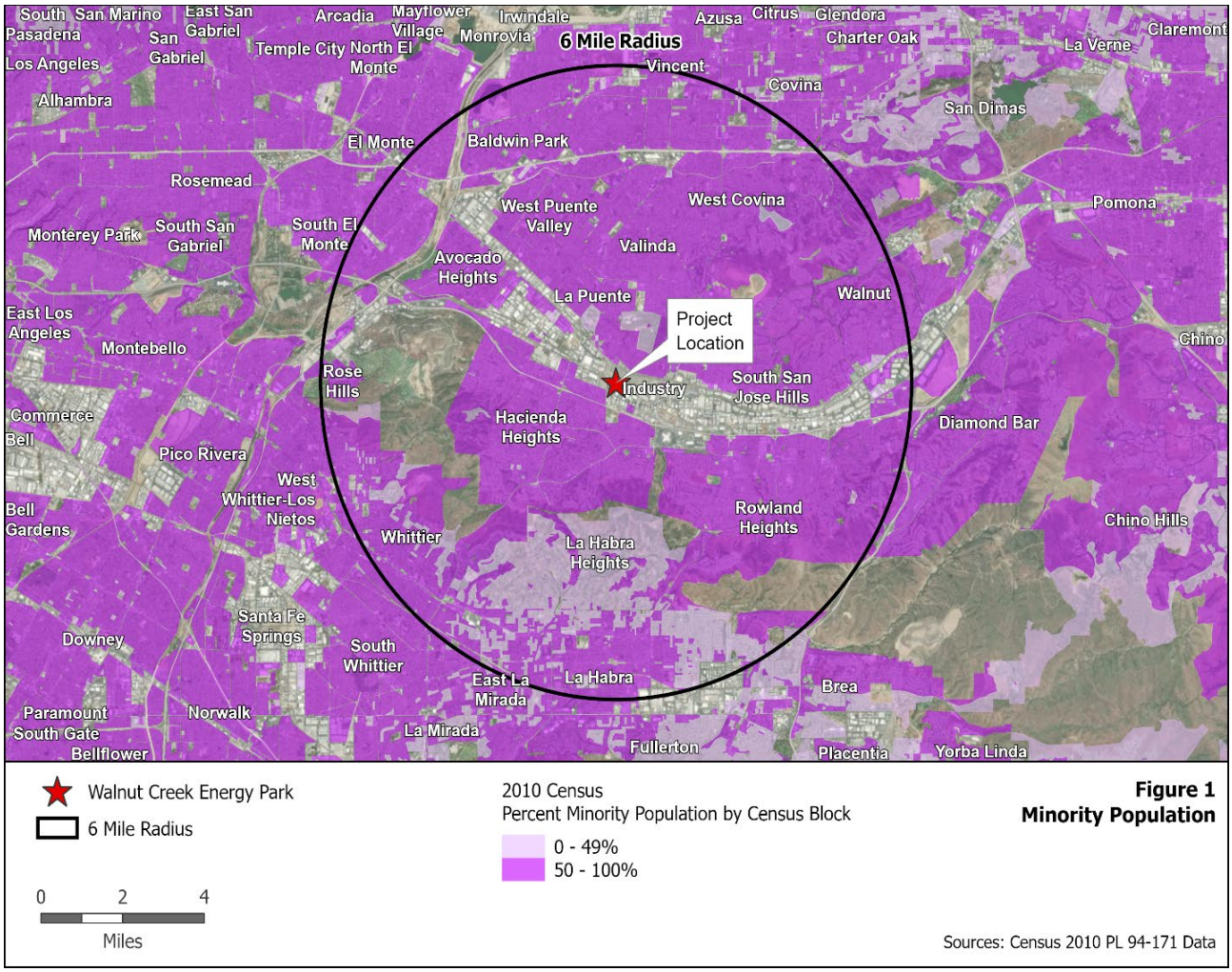
Environmental Justice – Table 1
Low Income Data within the Project Area

LOS ANGELES COUNTY SCHOOL DISTRICT IN SIX-MILE RADIUS	Enrollment Used for Meals	Free or Reduced Price Meals	
Baldwin Park Unified	15,295	12,712	83.1%
Bassett Unified	3,406	3,406	91.0%
Covina-Valley Unified	11,660	7,907	67.8%
East Whittier City Elementary	8,471	4,727	55.8%
Hacienda la Puente Unified	17,826	12,940	72.6%
Lowell Joint	3,147	1,263	40.1%
Mountain View Elementary	6,131	5,563	90.7%
Rowland Unified	13,854	10,689	77.2%
Walnut Valley Unified	13,798	2,885	20.9%
West Covina Unified	13,494	9,254	68.6%
Whittier City Elementary	6,022	4,595	76.3%
REFERENCE GEOGRAPHY			
Los Angeles County	1,436,605	989,954	68.9%
ORANGE COUNTY SCHOOL DISTRICTS IN SIX-MILE RADIUS	**Enrollment Used for Meals**	**Free or Reduced Price Meals**	
Brea-Olinda Unified	6,085	1,886	31.0%
La Habra City Elementary	4,666	3,529	75.6%
REFERENCE GEOGRAPHY			
Orange County	473,620	231,160	48.8%
Source: CDE 2020. California Department of Education, DataQuest, Free or Reduced Price Meals, District level data for the year 2019-2020, <http://dq.cde.ca.gov/dataquest/>.			

For the following technical areas, staff determined that the proposed project would have no impacts on the EJ populations:, Cultural Resources , Hazardous Materials Management, Land Use, Noise and Vibration, Socioeconomics, Soil and Water resources, Traffic and Transportation, Transmission Line Safety and Nuisance, Visual Resources, Waste Management, and Worker Safety and Fire Protection.

ENVIRONMENTAL JUSTICE CONCLUSIONS

For the technical areas of Air Quality and Public Health, staff concludes that impacts would be less than significant, and thus would be less than significant on the EJ population represented in Environmental Justice – Figure 1, Figure 2, and Table 1. For the Air Quality analysis, staff proposes new conditions of certification and/or modifications to existing conditions of certification to mitigate potentially significant impacts on the environment. Staff has determined that by adopting the proposed new and revised conditions of certification, the proposed project changes would not cause significant impacts for any population in the project's six-mile radius, including the EJ population. Therefore, impacts to the EJ population are less than significant.


6 Mile Radius
Project Location
Industry
Walnut Creek Energy Park
6 Mile Radius
0 2 4
Miles
2010 Census
Percent Minority Population by Census Block
0 - 49%
50 - 100%
Figure 1
Minority Population
Sources: Census 2010 PL 94-171 Data

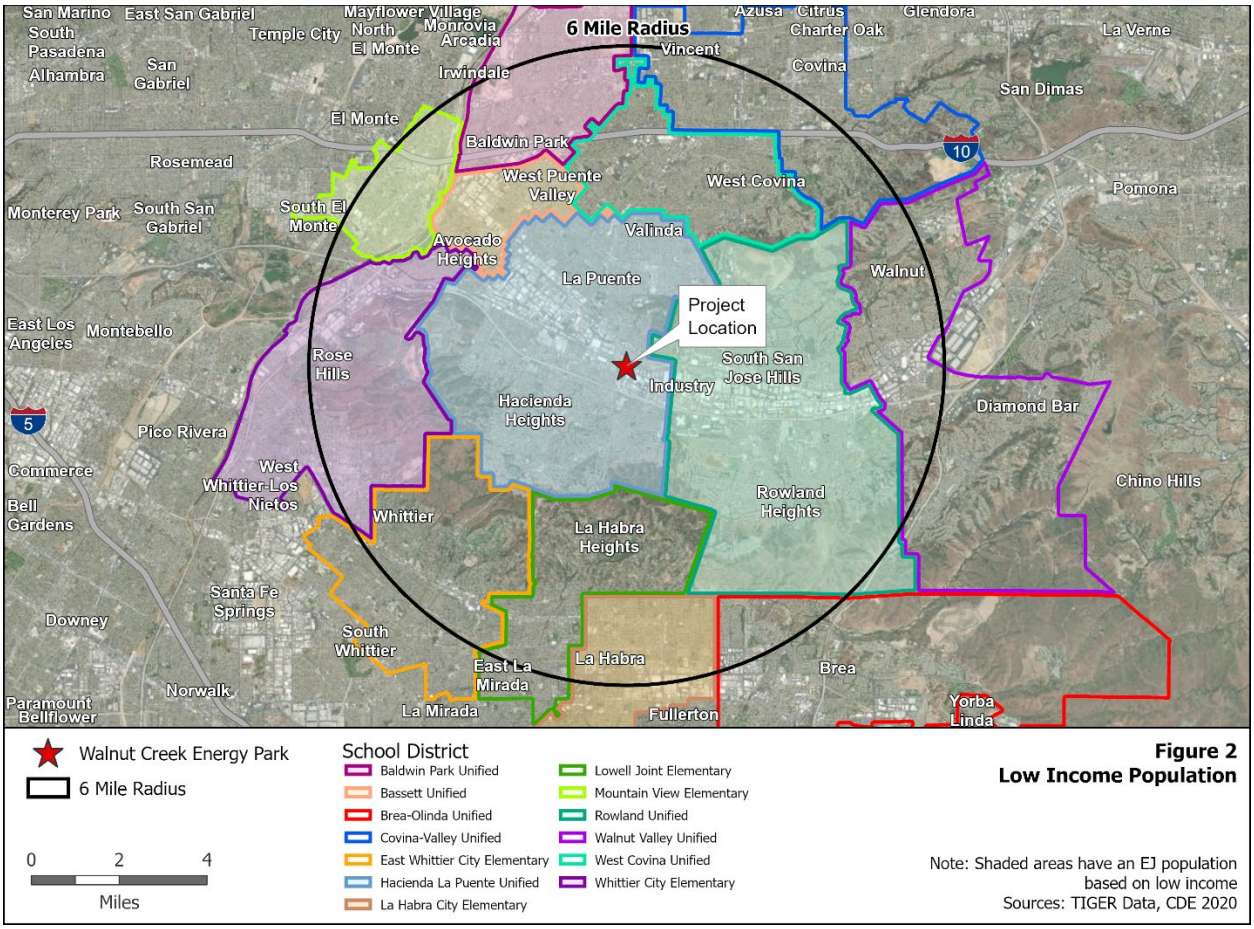


Figure 2
Low Income Population

Note: Shaded areas have an EJ population based on low income
Sources: TIGER Data, CDE 2020

STAFF RECOMMENDATIONS AND CONCLUSIONS

Staff concludes that the following required findings mandated by Title 20, California Code of Regulations, section 1769, can be made and will recommend approval of the petition to the CEC:

A. The modified project would not have a significant impact on the environment;

B. The facility will remain in compliance with all applicable laws, ordinances, regulations and standards;

C. The changes will be beneficial to the project owner and/or the public because the improvements will help provide additional power to customers during the expected peak 2021 summer demand and maintain a resilient power grid;

D. There has been a substantial change in circumstances since the CEC certification justifying the changes. Improved technology has become available allowing a more efficient combustion process accompanied by discreet changes to air quality impacts.

REFERENCES

CEC 2020 – WCE (Walnut Creek Energy Park) Uprate Project Petition to Amend- March 12, 2021 - Docket No. 05-AFC-02C Walnut Creek Energy Park (TN 237183) docketed March 16, 2021

CEC 2009 – California Energy Commission – WCEP, 2009 Final Staff Assessment (TN 53334) docketed September 23, 2009

CEC 2008 – California Energy Commission – WCEP, 2008 Final Commission Decision (TN 45518) docketed February 29, 2008

WALNUT CREEK ENERGY PARK (05-AFC-02C)
Petition to Amend – Uprate Project
AIR QUALITY, PUBLIC HEALTH, AND GREENHOUSE GASES

Tao Jiang, Ph.D., P.E.

INTRODUCTION AND SUMMARY

On March 12, 2021, Walnut Creek Energy, LLC (WCE) filed an *Application for Modification: Increase Turbine Heat Input Rating* (petition) with the California Energy Commission (CEC) for the uprate of gas turbine Units 1-5 at the Walnut Creek Energy Park (WCEP) (WCE 2021). The fuel input and ammonia flow rate on an hourly basis would increase, resulting in an increase in output of the respective gas turbines. With this petition, WCE is requesting that the maximum heat input be increased to 951.0 million British thermal units per hour (MMBtu/hr), which will enable the Facility to achieve 500.5 MW net.

The project was certified by the CEC on February 27, 2008 and began commercial operation on May 1, 2013. The facility as approved is a nominal 500-megawatt (MW) natural gas-fired peaking power plant located in the City of Industry in Los Angeles County. The project includes five (5) General Electric LMS100 PA Simple Cycle Gas Turbines (SCGTs), each driving an electrical generator rated at 100.1 net MW, 104 gross MW, for a total nominal plant generating capacity of 500.5 net MW (520 gross MW). The Facility's Net Qualifying Capacity (NCQ) is 483.1 MW. Selective catalytic reduction (SCR) systems and oxidation catalysts are utilized for control of nitrogen oxides (NOx) and carbon monoxide (CO)/volatile organic compounds (VOC) emissions, respectively. One 16,000-gallon ammonia (NH3) storage tank stores 19% aqueous ammonia for use in the SCR. Since the project was certified, the CEC has approved multiple petitions to amend air quality conditions of certification on May 4, 2011, December 18, 2012, and December 17, 2018.

The current petition requests changes to the equipment description and Conditions of Certification (COCs) **AQ-3**, **AQ-4**, **AQ-6**, and **AQ-12** applicable to each of the five SCGT's. The following specific changes are proposed:

1. Change the input heat input rating of the SCGTs in the equipment description from 891.7 MMBtu per hour to 951.0 MMBtu per hour to enable the Facility to achieve 500.5 MW net;
2. A modification of COC **AQ-3** and **AQ-4** (SCAQMD Condition A99.1 and A195.2) to change the NOx concentration limit from 2.5 ppm to 2.3 ppm for each of the five SCGTs and to add language exempting each of the five SCGTs from the 2.3 ppm limit during tuning events twice per year;
3. A modification of COC **AQ-6** (SCAQMD Condition C1.5) to add a daily fuel use limit of no more than 20.7 mmscf (or heat input of 21,735 mmbtu) per day for each of the five SCGTs; and
4. A modification of COC **AQ-12** (SCAQMD Condition D12.2) to change the ammonia injection rate limit from 215 lb/hr to 265 lb/hr for each of the five SCGTs so that the COC is consistent with the SCAQMD permit.

The South Coast Air Quality Management District (SCAQMD) completed the Statement and Basis (SCAQMD 2021a) and provided the draft Title V De Minimis Permit Revision to EPA on June 17, 2021 for their expedited review. The EPA completed its review on June 18, 2021 and does not have comments at this time. The SCAQMD issued a final Title V De Minimis Permit Revision on June 21, 2021 (SCAQMD 2021b). The 60-day period for the public to petition the EPA to object to the permit begins the day after the EPA's 45-day review period.

Staff reviewed the petition and the associated SCAQMD analysis and permit. In addition to the proposed changes in the petition, the SCAQMD also made additional administrative revisions to permit conditions. CEC staff proposes to incorporate the revisions in the SCAQMD permit into the COCs **AQ-1**, **AQ-3**, **AQ-4**, **AQ-6**, **AQ-7**, **AQ-7a, AQ-9a**, **AQ-11**, **AQ-12**, **AQ-13**, and **AQ-14**, along with the addition of two new COCs **AQ-24** and **AQ-25**, and the deletion of two existing COCs **AQ-8** and **AQ-10**.

The proposed modified project would comply with all laws, ordinances, regulations, and standards (LORS). Air quality, public health, and greenhouse gas impacts from the evaluated changes would be less than significant, including impacts to environmental justice populations. There would be no increase in greenhouse gases emissions. Therefore, there are no air quality, public health, or greenhouse gas environmental justice issues related to the evaluated facility modifications and no minority or low-income populations would be significantly or adversely impacted.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS COMPLIANCE

CEC staff reviewed the petition and the SCAQMD evaluation for consistency with all federal, state, and SCAQMD LORS. **Air Quality Table 1** includes a summary of the air quality LORS relevant to the proposed changes. **Air Quality Table 1** in this analysis is not intended to be comprehensive of all LORS applicable to the facility. The conditions of certification in the Final Commission Decision and approved amendments thereafter ensure that the facility remains in compliance with all LORS.

Air Quality Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable LORS	Description	Compliance
Federal	**U.S. Environmental Protection Agency**	
40 CFR 60, Subpart KKKK (Standards of Performance for Stationary Combustion Turbines)	This subpart establishes emission standards and compliance schedules for the control of emissions from stationary combustion turbines with a heat input at peak load equal to or greater than 10 MMBtu per hour, based on the higher heating value of the fuel, that commenced construction, modification, or reconstruction after February 18, 2005. The pollutants regulated by this subpart are NOx and SO_2.	Continued compliance with the NOx and SO_2 limits is expected with the use of SCR to control NOx emissions and PUC-quality pipeline natural gas that complies with the sulfur limits of SCAQMD Rule 431.1. The units also complies with the monitoring, recordkeeping and reporting requirements imposed by the rule.
40 CFR Part 63 Subpart YYYY (National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines)	This regulation applies to gas turbines located at major sources of hazardous air pollutants (HAP) emissions. A major source is defined as a facility with emissions of 10 tons per year or more of a single HAP or 25 tons per year or more of a combination of HAPs.	WCEP is not a major source of HAP; therefore, Subpart YYYY is not applicable to the Facility. There are no other NESHAP applicable to combustion turbines.
40 CFR Part 64 (Compliance Assurance Monitoring)	The Compliance Assurance Monitoring (CAM) regulation applies to emission units at major stationary sources, required to obtain a Title V Permit, which use control equipment to achieve a specified emission limit.	The facility has emissions that exceed the major source thresholds on a pre control basis for NOx, CO, and VOC (but not PM10 or SOx), the turbines are subject to an emission limit for NOx, CO, VOC, and the turbines use control equipment to meet these limits. Therefore, the turbines are subject to CAM for NOx, CO, and VOC.
40 CFR Part 72 (Acid Rain Provisions)	The Acid Rain Program requires the monitoring and reporting of emissions of acidic compounds and their precursors from combustion equipment owned by a utility. Under the Acid Rain Provisions, SO_2 emissions from the unit are required to be offset with SO_2 allowances. SO_2 allowances are, however, not required in any year when the unit emits less than 1,000 lbs of SO_2.	The SO_2 emissions are required to be monitored through the use of fuel gas meters and gas constituent analyses, or, if fired with pipeline quality natural gas, as in the case of this facility, a default emission factor of 0.0006 lbs/MMBtu is allowed. SO_2 mass emissions are to be recorded every hour. NOx and O_2 must be monitored with CEMS in accordance with the specifications of Part 75. Under this program, NOx and SOx emissions will be reported directly to the U.S. EPA. Continued compliance is expected.
Local	**South Coast Air Quality Management District**	
Regulation II – Permits Rule 212 (Standards for	This rule outlines specific criteria for approving permits and issuing public notice.	The facility is not located within 1,000 feet of the outer boundary of a school. The daily emissions increase would be less than the Rule 212(g) thresholds.

Applicable LORS	Description	Compliance
Approving Permits and Issuing Public Notice		The proposed Project does not result in an increase in annual emissions of any TAC. The proposed changes would not result in an Maximum Individual Cancer Risk (MICR) greater than or equal to the applicable thresholds in (c)(3)(A). Therefore, the proposed changes would not trigger Rule 212 public noticing requirements.
Regulation IV – Prohibitions Rule 401 (Visible Emissions)	This rule prohibits visible emissions from operating equipment exceeding Ringelmann No. 1 for a period aggregating more than 3 minutes in any hour.	The SCGTs combust natural gas and will continue to combust natural gas following implementation of the proposed changes. Visible emissions are not expected. Continued compliance is expected.
Regulation IV – Prohibitions Rule 402 (Nuisance)	This rule prohibits the discharge of air contaminants or materials which may cause nuisance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.	The SCGTs combust natural gas and will continue to combust natural gas following implementation of the proposed changes. Nuisance emissions are not expected. Continued compliance is expected.
Regulation IV – Prohibitions Rule 407 (Liquid and Gaseous Air Contaminants)	This rule limits CO emissions to 2,000 parts per million by volume, dry basis (ppmvd) and SO_2 emissions to 500 ppmvd, averaged over 15 consecutive minutes.	The CO emissions will continue to be controlled by the oxidation catalyst to meet the limit of 4.0 ppmvd CO at 15 percent O_2, 1-hour average, which is well below the 2,000 ppmvd limit. For SO_2, equipment which complies with Rule 431.1 is exempt from the SO_2 limit in Rule 407. The facility will continue to be required to comply with Rule 431.1 and thus the SO_2 limit in Rule 407 will not apply.
Regulation IV – Prohibitions Rule 409 (Combustion Contaminants)	This rule restricts the discharge of contaminants from the combustion of fuel to 0.23 grams per cubic meter (0.1 grain per cubic foot) of gas, calculated to 12 percent CO_2, averaged over 15 minutes.	The SCGTs combust PUC-quality pipeline natural gas, which will ensure continued compliance with this rule.
Regulation IV – Prohibitions Rule 431.1 (Sulfur Content of Gaseous Fuels)	This rule limits the sulfur compounds in the natural gas to 16 ppmv, calculated as H_2S.	The SCGTs combust PUC-quality pipeline natural gas. Continued compliance with this rule is expected.
Regulation IV – Prohibitions Rule 475 (Electric Power Generating Equipment)	This rule applies to power generating equipment rated at greater than 10 MW and installed after May 7, 1976. It limits the PM10 mass emissions to 11 lbs/hr and a PM10 concentration limit of 0.01 gr/scf, calculated at 3 percent O_2 on a dry basis averaged over at least 15 minutes.	Prior source test results demonstrate that neither SCGT exceeds the rule limits; therefore, continued compliance with this rule is expected.

Applicable LORS	Description	Compliance
Regulation XI – Source-Specific Standards Rule 1135 (Emissions of Oxides of Nitrogen from Electricity Generating Facilities)	The purpose of this rule is to reduce emissions of NOx from electric generating units at electricity generating facilities.	On and after January 1, 2024, or when required by a permit to operate issued to effectuate the requirements, this rule limits NOx emissions to 2.5 ppmv and ammonia emissions to 5 ppmv, both at 15 percent O_2, for SCGTs. The SCGTs already comply with the NOx and ammonia slip limits pursuant to current permit conditions. Continued compliance is expected.
Regulation XIII – New Source Review (NSR) Rule 1303 (Requirements)	The purpose of this regulation is to achieve no net increases of nonattainment air contaminants or their precursors from new or modified permitted sources. The requirements of this regulation are applicable to pollutants not covered under RECLAIM requirements.	<u>Best Available Control Technology (BACT):</u> SCAQMD's analysis shows that the daily emissions for PM10 and ammonia would increase. BACT is triggered for PM10 and ammonia. The facility currently complies with the BACT requirements for PM10 using pipeline quality natural gas fuel and ammonia BACT of 5.0 ppmv at 15 percent O_2 averaged over 1-hour. Continued compliance is expected. <u>Modeling:</u> SCAQMD's analysis shows that modeling is required for PM10. SCAQMD determines that WCEP's modeling analysis demonstrates compliance with this rule. <u>Offsets:</u> SCAQMD's analysis shows that there would be no increase in 30-day average emissions for CO, VOC, PM10 or SOx. Therefore, offsets are not required per Rule 1303(b)(2).
Regulation XIV – Toxics and Other Non-Criteria Pollutants Rule 1401 (New Source Review of Toxic Air Contaminants)	This rule specifies limits for maximum individual cancer risk (MICR), cancer burden (CB), and non-cancer acute hazard index (HIA) and chronic hazard index (HIC) for new permit units, relocations, or modifications to existing facilities emitting toxic air contaminants (TAC).	The hourly emission rates of toxics will increase as a result of the higher heat input. However, each individual turbine is subject to a monthly fuel use limit (which equated to an annual fuel use limit as well), Therefore, the maximum annual PTE of toxic emissions will not increase. Therefore, the proposed modification qualifies for the exemption of paragraph (g)((1)(B), and no risk analysis is required.
Regulation XVII Prevention of Significant Deterioration (PSD)	The purpose of this regulation is to establish preconstruction review requirements for stationary sources to ensure that air quality in clean air areas does not significantly deteriorate while maintaining a margin for future industrial growth.	This project does not propose an increase in annual emissions. Therefore, the project is not considered to be a major modification and the requirements of PSD do not apply.
Regulation XXX – Title V Permits	This regulation defines permit application and permit issuance	The proposed increase in heat input is considered a de minimis significant

Applicable LORS	Description	Compliance
	procedures, as well as compliance requirements associated with the federal Operating Permit Program.	revision in accordance with Rule 3000 because there is an increase in daily CO and VOC emissions but the increase does not exceed the de minimis thresholds of 30 lbs/day VOC or 220 lbs/day CO. As a de minimis significant revision, the permit is subject to a 45 day EPA review and a 30 day review by the affected states. There has not been any other de minimum significant permit revisions for this facility since the last permit renewal.

ANALYSIS

CRITERIA POLLUTANT EMISSIONS ANALYSIS

WCE is proposing to increase the maximum hourly heat input rating for each of the SCGTs from 891.7 MMBtu/hr to 951.0 MMBtu/hr. The increase in hourly heat input rate would result in an increase in the hourly and daily CO, VOC, SOx, and PM10 emissions during normal operations. WCE is also requesting to lower the NOx emission limit from 2.5 ppm to 2.3 ppm. The lower NOx concentration limit will lead to a reduction in hourly and daily NOx emissions. Additionally, WCE has requested that SCAQMD add a daily fuel use limit of 20.7 mmscf per turbine, which would mitigate the daily emissions increase. There would be no increase in monthly or annual emissions for any criteria pollutant. **Air Quality Table 2** shows the comparison of the normal operating hourly emissions of each SCGT before and after the proposed modifications. Emissions during startups and shutdowns will not change with the proposed increase in heat input during normal operation.

Air Quality Table 2
Summary of Normal Operating Hourly Emissions (per SCGT)

Pollutant	Pre-Modification Emissions (lbs/hr)	Post-Modification Emissions (lbs/hr)	Change in Emissions (lbs/hr)
NOx	8.21	8.06	-0.15
CO	8.00	8.54	+0.54
VOC	2.28	2.44	+0.16
PM10	6.00	6.40	+0.40
SOx	0.57	0.61	+0.04

Source: SCAQMD 2021a

The maximum daily emissions would also increase with the proposed changes. However, maximum daily emissions are not specifically limited by conditions of certification. To minimize the emission increase, SCAQMD added a daily fuel use limit of 20.7 mmscf per combustion turbine.

Air Quality Table 3
Summary of Maximum Daily Emissions (per SCGT)

Pollutant	Pre-Modification Emissions (lbs/day)	Post-Modification Emissions (lbs/day)	Change in Emissions (lbs/day)
NOx	207.04	194.82	-12.22
CO	246.92	247.78	+0.86
VOC	57.22	57.56	+0.34
PM10	144.00	146.35	+2.35
SOx	13.70	13.93	+0.23

Source: SCAQMD 2021a

The facility is currently subject to a monthly fuel use limit of 367 mmscf. This limit will not change, therefore, there will be no increase in the monthly or annual emissions.

Air Quality Table 4
Summary of Maximum Monthly Emissions (per SCGT)

Pollutant	Pre-Modification Emissions (lbs/month)	Post-Modification Emissions (lbs/month)	Change in Emissions (lbs/month)
NOx	3,748.90	3518.61	-230.29
CO	4,555.73	4,555.73	-0
VOC	1,036.93	1,036.93	0
PM10	2,594.69	2,594.69	0
SOx	246.99	246.99	0

Source: SCAQMD 2021a

Air Quality Table 5
Summary of Maximum Annual Emissions (per SCGT)

Pollutant	Pre-Modification Emissions (lbs/yr)	Post-Modification Emissions (lbs/yr)	Change in Emissions (lbs/yr)
NOx	44,968.8	41,736.3	-3,232.5
CO	54,668.8	54,153.3	-515.5
VOC	12,443.1	12,259.9	-183.2
PM10	31,163.3	31,163.3	0
SOx	2,963.3	2,963.3	0

Source: SCAQMD 2021a

The ambient air quality impacts due to the criteria pollutant emissions increases are discussed under **Air Quality Impacts Analysis (AQIA)** below.

AIR QUALITY IMPACTS ANALYSIS (AQIA)

WCE performs an AQIA according to requirements of SCAQMD rules. Per Rule 1303(b), an AQIA is required when a project results in an increase of any nonattainment pollutant emissions from a permit unit. Since the South Coast Air Basin (SCAB) is in attainment for CO and SO_2, no AQIA assessment is needed for these pollutants. There is a reduction of NOx emissions and therefore no NO_2 modeling is needed. The proposed modification to increase the maximum allowable heat input in conjunction with the daily fuel use limit results in an increase in PM10 emissions on a maximum lbs/day basis (but not on an

annual basis). Therefore, for this proposed modification, modeling is only required for PM10 emissions on a 24-hour basis. The emission rate increase (not the total emissions) in daily emission of one single turbine was used to model the change of project impact. As shown in **Air Quality Table 6**, the change of 24-hour PM10 impacts would be below the district significant change level of 2.5 µg/m^3. Therefore, the air quality impacts of the project with proposed modifications would be less than significant.

Air Quality Table 6
Air Quality Impact of Significant Change (per SCGT)

Pollutant	Averaging Period	Change of Project Impact (µg/m^3)	Significant Change in Air Quality Threshold (µg/m^3)	Exceeds Standard?
PM10	24-hr	0.0143[a]	2.5	No

Sources: SCAQMD 2021a and staff independent analysis.
Notes:
[a] The initial post-modification emission proposed by the project owner is 149.85 lbs/day. The corresponding change of project impact is 0.0355 µg/m^3 based on the input of emission increase of 5.85 lbs/day (149.85 - 144=5.85 lbs/day). The final daily emission increase with daily fuel limit in SCAQMD permit is 146.35 lbs/day. Therefore staff used the emission increase of 2.35 lbs/day (146.35 – 144= 2.35 lbs/day) and made the scaling of the modeling result provided by the project owner.

Toxic Air Contaminants Emissions and Health Risk Assessment (HRA)

The proposed increase in hourly heat input rate would result in an increase in maximum hourly emissions of TACs. **Air Quality Table 7** shows comparison of the maximum hourly TAC emissions of each SCGT before and after the proposed modifications. However, each individual turbine is subject to a monthly fuel use limit (which equates to an annual fuel use limit as well). Therefore, the maximum annual PTE of toxic emissions will not increase. Because there is no increase in annual toxic emissions from this project, the proposed modification qualifies for exemption of the district rule 1401 paragraph (g)(1)(B) and no risk analysis is required.

Air Quality Table 7
Summary of Maximum Hourly TAC Emissions (per SCGT)

TAC	Pre-Modification Emissions (lbs/hr)	Post-Modification Emissions (lbs/hr)	Change in Emissions (lbs/hr)
1,3 butadiene	3.73E-04	3.98E-04	2.48E-05
acetaldehyde	1.53E-01	1.63E-01	1.02E-02
acrolein	3.13E-03	3.34E-03	2.08E-04
benzene	2.83E-03	3.02E-03	1.88E-04
ethylbenzene	2.77E-02	2.95E-02	1.84E-03
formaldehyde	3.12E-01	3.33E-01	2.07E-02
naphthalene	1.13E-03	1.20E-03	7.51E-05
PAH (excluding naphthalene)	7.80E-04	8.32E-04	5.18E-05
propylene oxide	2.51E-02	2.68E-02	1.67E-03
toluene	1.13E-01	1.20E-01	7.51E-03
xylenes	5.55E-02	5.92E-02	3.68E-03

Source: SCAQMD 2021a

Greenhouse Gas Emissions

The greenhouse gas (GHG) emissions are proportional to fuel use. Since the annual fuel use would not change, the annual GHG emissions would not change as a result of the proposed modifications.

CONCLUSIONS AND RECOMMENDATIONS

Staff recommends approval of the proposed uprate of the gas turbine Units 1-5 with accompanying changes to the Air Quality Conditions of Certification. All proposed changes would conform with the applicable LORS related to air quality and would not result in significant impacts to ambient air quality or public health. There would be no increase in GHG emissions. The SCAQMD has analyzed requested changes and has issued a final Title V permit.

AMENDED CONDITIONS OF CERTIFICATION

The modifications to the Air Quality conditions of certification are included below. **Bold underline** indicates new language. ~~Strikethrough~~ indicates deleted language.

AQ-1 The project owner shall limit emission from each gas fired combustion turbine train exhaust stacks as follows:

CONTAMINANT	EMISSION LIMIT
PM10	Less than or equal to 2,592 LBS IN ANY ONE MONTH
VOC	Less than or equal to 1,035 LBS IN ANY ONE MONTH

The project owner shall calculate the monthly emissions for PM10 and VOC using the equation below and the following emission factors: VOC: ~~2.73~~**2.82** lb/mmcf; and PM10: ~~7.04~~**7.07** lb/mmcf.

Monthly Emissions, lb/month = (Q) x (EF),
Where Q = monthly fuel usage, mmscf/month and EF = emission factor indicated above.

For the purposes of this condition, the limits shall based on the emissions from a single turbine.

The project owner shall limit the emissions from this facility as follows:

CONTAMINANT	EMISSIONS LIMIT
PM2.5	Less than 60.89 tons in any one year
CO	Less than or equal to 112.96 tons in any one year

The project owner shall calculate the monthly emissions of PM2.5 and CO using the equation below and the following emissions factors: PM2.5: ~~7.04~~**7.07** lbs/mmscf; CO: 13.76 lbs/mmscf

Monthly emissions, lb/month = (Q) x (EF); where Q = monthly fuel usage in mmcf/month and EF = emission factor indicated above

Compliance with the CO emission limit shall be verified through valid CEMS data.

The project owner shall calculate the emission limits for the purpose of determining compliance with the CO limit in the absence of valid CEMS data by using the above equation.

For the purpose of this condition, the yearly emission limit shall be defined as a period of 12 consecutive months determined on a rolling basis with a new 12-month period beginning on the first day of each calendar month.

Verification: The project owner shall submit all emission calculations, fuel use, CEM records and a summary demonstrating compliance with all emission limits stated in this Condition for approval to the CPM on a quarterly basis in the quarterly emissions report (**AQ-SC10**).

AQ-3 The ~~2.5~~**2.3** PPMV NOx emission limit, 2.0 PPMV VOC emission limit and the 4.0 PPMV CO emission limit shall not apply during start-up**,** ~~and~~ shutdown **and recommissioning** periods. Start-up time shall not exceed ~~60~~**35** minutes. Shutdown time shall not exceed 10 minutes for each shutdown. The turbine shall be limited to a maximum of **2 start-ups per day, and 40 start-ups per month**~~480 start-ups per year~~. Written records of start-ups and shutdowns shall be maintained and made available upon request from the District Executive Officer and the CPM.

NOx emissions for the 60 minutes beginning with a start-up shall not exceed 10.42 lbs, and for the 60 minutes ending with a shutdown shall not exceed 11 lbs. CO emissions for the 60 minutes beginning with a start-up shall not exceed 18.73 lbs, and for the 60 minutes ending with a shutdown shall not exceed 24.73 lbs. These limits shall take effect 90 days after the date of the permit to construct.

For the purposes of this condition, the beginning of start-up occurs at initial fire in the combustor and the end of start-up occurs when both the NOx and CO BACT levels are achieved. If during start-up the process is aborted and the turbine is restarted, then the start-up and restart will count as one start-up, provided the total time for the start-up does not exceed 35 minutes.

Recommissioning is a one time event that shall not exceed 13 operating hours per turbine. Once started, the recommissioning shall be completed within 14 consecutive days per turbine, and all turbines shall be recommissioned within 60 days of the date of the permit to construct. The project owner shall notify South Coast AQMD prior to the start of the recommissioning operation and at the conclusion of the recommissioning operation.

Operation of the equipment prior to completion of the recommissioning shall be in accordance with facility description and equipment specific conditions of the permit, including limiting the maximum heat input rate for each turbine to 891.7 mmbtu/hr.

The NOx emissions during recommissioning shall not exceed 10.2 lbs/hr and 132.6 total lbs as determined through the use of the certified CEMS. The CO emissions during recommissioning shall not exceed 8.0 lbs/hr and 104 total lbs as determined through the use of the certified CEMS. The project owner shall keep records of the date and time the turbine is operated during recommissioning, the duration of the operation, the fuel use and the NOx and CO emissions.

The project owner shall keep records of the date, time and duration as well as minute by minute data (NOx, CO and O_2 concentration and fuel flow rate at a minimum) of each startup and shutdown, and during the recommissioning operation.

Verification: The project owner shall provide start-up and shutdown occurrence and duration data as part of the Quarterly Operation Report **(AQ-SC10**). The project owner shall make the site available for inspection of the **re**commissioning and startup/shutdown records by representatives of the District, ARB and the Commission.

AQ-4 The ~~2.5~~**2.3** PPMV NOx emissions limit(s) is averaged over 60 minutes at 15% O2, dry.

The 4.0 PPMV CO emission limit(s) is averaged over 60 minutes at 15% O2, dry.

The 2.0 PPMV VOC emission limit(s) is averaged over 60 minutes at 15% O2, dry.

The 5.0 PPMV NH3 emission limit(s) are averaged over 60 minutes at 15% O2, dry.

The 15 PPMV NOx emissions limit(s) is averaged over 4 hours rolling at 15% O2, dry.

Verification: The project owner shall submit to the CPM for approval all emissions and emission calculations on a quarterly basis as part of the quarterly emissions report of Condition of Certification **AQ-SC10**.

AQ-6 The project owner shall limit the fuel usage from each turbine to no more than 367 MM cubic feet in any one calendar month. **The project owner shall limit the fuel usage to no more than 20.7 MM cubic feet per day.** For the purpose of this condition, fuel usage shall be defined as the total natural gas usage of a single turbine. **Alternatively, the project**

owner shall limit the heat input to each turbine to 21,735 mmbtu per day calculated by using the fuel use data multiplied by a fuel heat content of 1050 btu/cf. The project owner shall maintain records in a manner approved by the District and the CPM, to demonstrate compliance with this condition. The project owner shall install and maintain a flow meter to accurately indicate the fuel usage being supplied to the turbine. The project owner shall also install and maintain a device to continuously record the parameter being measured. **The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once 12 months.**

Verification: The project owner shall submit to the CPM for approval all fuel usage records on a quarterly basis as part of the quarterly emissions report of Condition of Certification **AQ-SC10**.

AQ-7 The project owner shall conduct source test(s) for the pollutant(s) identified below.

Pollutant to be tested	Required Test Method(s)	Averaging Time	Test Location
SOX emissions	AQMD Laboratory Method 307-91	Not applicable	Fuel Sample
VOC emissions	District method 25.3	1 hour	Outlet of the SCR
PM10 emissions	District method 5	4 hours	Outlet of the SCR
PM2.5	EPA Method 201A and 202	4 hours	Outlet of the SCR

The test(s) shall be conducted at least once every three years. The SCAQMD shall be notified of the date and time of the test at least 10 days prior to the test.

Notwithstanding the above, a test shall be conducted within 120 days of the permit to construct issued in 2021.

The test shall be conducted to determine the oxygen levels in the exhaust. In addition, the test shall measure the fuel flow rate (CFH), the flue gas flow rate, and the turbine generating output in MW.

The test shall be conducted in accordance with SCAQMD approved test protocol. The protocol shall be submitted to the SCAQMD engineer no later than 45 days before the proposed test date and shall be approved by the SCAQMD before the test commences. The test protocol shall include the proposed operating conditions of the turbine during the tests, the identity of the testing lab, a statement from the testing lab certifying that it meets the criteria of Rule 304, and a description of all sampling and analytical procedures.

The test shall be conducted when this equipment is operating at loads of 100, 75, and 50 percent, with the exception of PM10 and PM2.5 testing. For PM10 and PM2.5, the test shall be conducted when this equipment is operating at a load of 100 percent.

For natural gas fired turbines only, for the purpose of demonstrating compliance with VOC BACT limits as determined by SCAQMD, the project owner shall use Method 25.3 modified as follows:

a) Triplicate stack gas samples extracted directly into Summa canisters, maintaining a final canister pressure between 400-500 mmHg absolute,

b) Pressurization of the Summa canisters with zero gas analyzed/certified to contain less than 0.05 ppmv total hydrocarbons as carbon, and

c) Analysis of Summa canisters per the canister analysis portion of SCAQMD Method 25.3 with a minimum detection limit of 0.3 ppmv or less and reported to two significant figures. The temperature of the Summa canisters when extracting samples for analysis shall not be below 70 degrees Fahrenheit.

The use of this alternative method for VOC compliance determination does not mean that it is more accurate than unmodified SCAQMD method 25.3, nor does it mean that it may be used in lieu of SCAQMD Method 25.3 without prior approval, except for the determination of compliance with the BACT level of 2.0 ppmv VOC calculated as carbon for natural gas fired turbines.

The test results shall be reported with two significant digits.

For the purpose of this condition, alternative test method may be allowed for each of the above pollutants upon concurrence of SCAQMD, EPA, and CARB.

Source test results shall be submitted to the District no later than 60 days after the source test was conducted. Emission data shall be expressed in terms of concentration (ppmv) corrected to 15 percent oxygen (dry basis), mass rate (lb/hr), and lb/MMCF. All exhaust flow rate shall be expressed in terms of dry standard cubic feet per minute (DSCFM) and dry actual cubic feet per minute. All moisture concentration shall be expressed in terms of percent corrected to 15 percent oxygen.

Source test results shall also include the oxygen levels in the exhaust, fuel flow rate (CFH), the flue gas temperature, and the generator power output (MW) under which the test was conducted.

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

AQ-7a The project owner shall conduct source test(s) for the pollutant(s) identified below.

Pollutant to be tested	Required Test Method(s)	Averaging Time	Test Location
NH3 emissions	District method 207.1 ~~and 5.3 or EPA Method 17~~	1 hour	Outlet of the SCR

The test shall be conducted and the results submitted to the District within 45 days after the test date. The CPM and **South Coast** AQMD shall be notified of the date and time of the test at least 7 days prior to the test.

~~The test shall be conducted at least once per year.~~ **The test shall be conducted quarterly after the recommissioning performed in 2021 with the first test conducted within 120 days of the permit to construct date. If at least 4 consecutive quarterly tests show compliance then the testing may be performed annually. If the results of any annual test show noncompliance then quarterly tests shall be conducted until at least 4 consecutive quarterly tests show compliance, at which time annual tests may be resumed.**

The NOx concentration, as determined by the CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable, a test shall be conducted to determine the NOx emissions using District Method 100.1 measured over a 60 minute averaging time period.

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

The test shall be conducted to determine compliance with the Rule 1303 BACT concentration limit.

Source test results shall be submitted to the District no later than 60 days after the source test was conducted. Emission data shall be expressed in terms of concentration (ppmv) corrected to 15 percent oxygen (dry basis), mass rate (lb/hr), and lb/MMCF. All exhaust flow rate shall be expressed in terms of dry standard cubic feet per minute (DSCFM) and dry actual cubic feet per minute. All moisture concentration shall be expressed in terms of percent corrected to 15 percent oxygen.

Source test results shall also include the oxygen levels in the exhaust, fuel flow rate (CFH), the flue gas temperature, and the generator power output (MW) under which the test was conducted.

Verification: The project owner shall submit the proposed protocol for the source tests 45 days prior to the proposed source test date to both the District and CPM. The project owner shall notify the District and CPM no later than 7 days prior to the proposed source test date and time. The project owner shall submit source test results no later than ~~45~~**60** days following the source test date to both the District and CPM.

AQ-8 **Deleted** ~~The project owner shall provide to the District a source test report in accordance with the following specifications:~~

~~Source test results shall be submitted to the District and the CPM no later than 60 days after the source test was conducted.~~

~~Emission data shall be expressed in terms of concentration (PPMV) corrected to 15 percent oxygen (dry basis), mass rate (lbs/hr), and lbs/MM Cubic Feet. In addition, solid PM emissions, if required to be tested, shall also be reported in terms of grains per DSCF.~~

~~All exhaust flow rate shall be expresses in terms of dry standard cubic feet per minute (DSCFM) and dry actual cubic feet per minute (DACFM).~~

~~All moisture concentrations shall be expressed in terms of percent corrected to 15 percent oxygen.~~

~~Source test results shall also include the oxygen levels in the exhaust, fuel flow rate (CFH), the flue gas temperature, and the generator power output (MW) under which the test was conducted.~~

~~**Verification:** The project owner shall submit source test results no later than 45 days following the source test date to both the District and CPM.~~

AQ-9a The project owner shall install and maintain a CEMS to measure the following parameters:

NOx concentration in PPMV **and O_2 in percent**.

Concentrations shall be corrected to 15 percent oxygen on a dry basis.

The CEMS shall comply with the requirements of Rule 2012 **and 40 CFR Part 75. The CEMS shall convert the actual NOx concentrations to mass emission rates in accordance with the provisions of Rule 2012 and 40 CFR Part 75.** ~~During provisional certification date of the CEMS, the project owner shall comply with the monitoring requirements of Rule 2012(h)(2) and 2012(h)(3).~~

Verification: Within 30 days of certification, the project owner shall notify the CPM of the completion of the certification process for the CEMS.

AQ-10 **Deleted** ~~The project owner shall keep records in a manner approved by the District for the following items parameter(s) or item(s):~~

~~Natural Gas fuel use after CEMS certification~~

~~**Verification:** The project owner shall submit to the CPM for approval all fuel usage records on a quarterly basis as part of the quarterly emissions report of Condition of Certification **AQ-SC10**.~~

AQ-11 The project owner shall calculate and continuously record NH3 slip emission using the following:

NH3 (PPMV) = [a-b*c/1EE+06]*1EE+06/b; where

a = NH3 injection rate (lb/hr) / 17 lb-lb-mol

b = dry exhaust gas flow rate (scf/hr) / 385.3 scf/lb-mol,

c = change in measured NOx across the SCR (PPMV at 15% O2)

The project owner shall maintain a NOx analyzer to measure the SCR inlet NOx PPMV accurate to plus or minus 5 percent calibrated at least once every twelve months.

The project owner shall use the above described method or other alternative method approved by the Executive Officer.

The ammonia slip calculation procedures described above shall not be used for compliance determination or emission information without corroborative data using an approved reference method for the determination of ammonia.

The SCAQMD may require the installation of a CEMS designed to monitor ammonia concentration if the SCAQMD determines that a commercially available CEMS has been proven to be accurate and reliable and that an adequate Quality Assurance/Quality Control (QA/QC) protocol has been established. The SCAQMD or other agency must establish an SCAQMD approved QA/QC protocol prior to the ammonia CEMS becoming a requirement.

In the event that an ammonia CEMS is installed, the ammonia slip calculation and annual ammonia slip testing requirement shall no longer be required.

Verification: The project owner shall include ammonia slip concentrations averaged on an hourly basis calculated via the District Requirement protocol provided as part of the Quarterly Operational Report required in Condition of Certification **AQ-SC10**. The project owner shall submit all calibration results performed to the CPM within 60 days of the calibration date.

AQ-12 The project owner shall install and maintain a flow meter to accurately indicate the flow rate of the total hourly throughput of injected ammonia. **The project owner shall continuously monitor the ammonia flow rate.** The project owner shall also install and maintain a device to continuously record the ~~parameter being measured~~**ammonia flow rate**. **Continuously record shall be defined as recording at least once every hour and shall be calculated based upon the 60 minute rolling average of the continuous monitoring for that hour.** The ~~measuring device or gauge~~**flow meter** shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months. The ammonia injection rate shall not exceed 215 lb/hr. **During and after recommissioning the ammonia injection rate shall not exceed 265 lbs/hr.**

~~For the purpose of this condition, continuously record shall be defined as recording at least once every hour and shall be calculated based upon the average of the continuous monitoring for that hour.~~

Verification: The project owner shall submit to the CPM no less than 30 days after installation, a written statement by a California registered Professional Engineer stating that said engineer has reviewed the as-built-designs or inspected the identified equipment and certifies that the appropriate device has been installed and is functioning properly. The project owner shall submit annual calibration results within 30 days of their successful completion.

AQ-13 The project owner shall install and maintain a temperature gauge to accurately indicate the temperature of the exhaust at the inlet to the SCR reactor. **The project owner shall continuously monitor the temperature. The project owner shall also install and maintain a device to continuously record the exhaust temperature. Continuously record shall be defined as recording at least once every hour and shall be calculated based upon the 60 minute rolling average of the continuous monitoring for that hour.** The ~~measuring device or~~**temperature** gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months. ~~The project owner shall also install and maintain a device to continuously record the parameter being measured.~~ The catalyst temperature range shall remain between 715 degrees F and 840 degrees F, except during start-up and shutdown periods defined under Condition of Certification **AQ-3**.

~~For the purpose of this condition, continuously record shall be defined as recording at least once every hour and shall be calculated based upon the average of the continuous monitoring for that hour.~~

Verification: The project owner shall submit to the CPM no less than 30 days after installation, a written statement by a California registered Professional Engineer stating that said engineer has reviewed the as-built-designs or inspected the identified equipment and certifies that the appropriate device has been installed and is functioning properly. The project owner shall submit annual calibration results within 30 days of their successful completion.

AQ-14 The project owner shall install and maintain a pressure gauge to accurately indicate the differential pressure across the SCR catalyst bed in inches of water column. **The project owner shall continuously monitor the differential pressure.** The project owner shall also install and maintain a device to continuously record the **differential pressure**~~parameter being measured~~. **Continuous recording shall be defined as recording at least once every month and shall be calculated based upon the average of the continuous monitoring for that month.** The ~~measuring device or~~**pressure** gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months. The pressure drop across the catalyst shall not exceed 12 inches of water column.

~~For the purpose of this condition, continuously record shall be defined as measuring at least once every month and shall be calculated based upon the average of the continuous monitoring for that month.~~

Verification: The project owner shall submit to the CPM no less than 30 days after installation, a written statement by a California registered Professional Engineer stating that said engineer has reviewed the as-built-designs or inspected the identified equipment and certifies that the appropriate device has been installed and is functioning properly. The project owner shall submit annual calibration results within 30 days of their successful completion.

AQ-24 The project owner shall only use natural gas containing the following specified compounds:

Compound	Grains per 100 scf
Total sulfur compounds calculated as H_2S	Less than or equal to 0.25

This concentration limit is an annual average based on a monthly sample of natural gas composition or gas supplier documentation. Gaseous fuel samples shall be tested using District Method 307-91 for total sulfur calculated as H_2S.

Verification: The project owner shall submit to the CPM the fuel test report as part of the quarterly emissions report of Condition of Certification AQ-SC10.

AQ-25 The project owner shall vent the gas turbines to the SCR and the oxidation catalysts whenever the turbine is in operation.

Ammonia injection shall commence once the exhaust temperature into the SCR catalyst has reached 715 degrees F.

Verification: The project owner shall make the site available for inspection representatives of the District, CARB and the Commission.

REFERENCES

CEC 2008 - California Energy Commission, Commission Final Decision of the Walnut Creek Energy Park Project (05-AFC-2). February 27, 2008.

CEC 2011 - California Energy Commission, Order Approving a Petition to Amend Air Quality Conditions of Certification. May 4, 2011.

CEC 2012 - California Energy Commission, Order Approving a Petition to Modify Eight and Delete Two Air Quality Conditions of Certification. December 18, 2012.

CEC 2018 - California Energy Commission, Commission Order 20181210 WCEP Petition Revised Conditions of Certification. December 17, 2018.

SCAQMD 2021a – South Coast Air Quality Management District (SCAQMD), Statement of Basis Analysis (Facility ID# 146536), dated June 21, 2021.

SCAQMD 2021b – South Coast Air Quality Management District (SCAQMD), Title V De Minimis Significant Permit Revision (Facility ID# 146536), TN # 238427, dated June 22, 2021.

WCE 2021 - Walnut Creek Energy, LLC. WCE Uprate Project Petition to Amend. March 12, 2021