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| **Project Title:** | Palomar Energy Project Compliance |
| **TN #:** | 203772 |
| **Document Title:** | Staff Analysis for Palomar Energy Center (PEC) to Amend Air Quality Conditions of Certification |
| **Description:** | Document |
| **Filer:** | Jonathan Fong |
| **Organization:** | California Energy Commission |
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**DATE**: March 5, 2015

**TO:** Interested Parties

**FROM**: Jonathan Fong, Compliance Project Manager

**SUBJECT**: **Palomar Energy Center (01-AFC-24C)**
**Staff Analysis of Amendment Proposal(s)**

On February 22, 2013, the San Diego Gas and Electric Company (SDG&E) filed a petition with the California Energy Commission (Energy Commission) requesting to modify the Final Decision for the Palomar Energy Center Project (PEC). The PEC, a combined-cycle, natural gas-fired, 500-megawatt facility, was certified by the Energy Commission in its Decision on August 6, 2003, and began commercial operation on April 1, 2006. The facility is located in the city of Escondido, in San Diego County, California.

The Petition to Amend (PTA) requests the Energy Commission: (1) modify certain Air Quality Conditions of Certification to be consistent with the most recent San Diego County Air Pollution Control District air permits to operate; and (2) upgrade the advanced gas path technology for two existing General Electric Frame 7-FA combined-cycle gas turbines.

On September 16, 2013, SDG&E requested to split the two requests into separate amendments. Staff's analysis is focused on the request to modify the Air Quality Conditions of Certification. The request to upgrade the advanced gas path technology will be evaluated in a separate staff analysis.

Energy Commission staff (staff) reviewed the petition and assessed the impacts of this proposal on environmental quality and on public health and safety. It is staff's opinion that, with the implementation of these new and/or revised Air Quality Conditions of Certification, the facility would remain in compliance with applicable laws, ordinances, regulations, and standards (LORS), and the proposed changes to conditions of certification would not result in any significant, adverse, direct, indirect, or cumulative impacts to the environment (20 Cal. Code of Regs., § 1769). Energy Commission staff intends to recommend approval of the petition at the April 8, 2015, Business Meeting of the Energy Commission.

The Energy Commission's webpage for this facility, http://www.energy.ca.gov/sitingcases/palomar/, has a link to the petition and Staff's Analysis on the right side of the webpage in the box labeled "Compliance Proceeding."

Click on the “Documents for this Proceeding (Docket Log)” option. After the Final Decision, the Energy Commission’s Order regarding this petition will also be available from the same webpage.

This notice has been mailed to the Energy Commission’s list of interested parties and property owners adjacent to the facility site. It has also been e-mailed to the facility listserv. The listserv is an automated Energy Commission e-mail system by which information about this facility is e-mailed to parties who have subscribed. To subscribe, go to the Commission’s webpage for this facility, cited above, scroll down the right side of the project 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 within 30 days of the date of this notice/by 5:00 p.m., March 6, 2015. To use the Energy Commission’s electronic commenting feature, go to the Energy Commission’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 Energy Commission Dockets Unit reviews and approves your comments, and you will receive an e-mail with a link to them.

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

California Energy Commission
Dockets Unit, MS-4
Docket No. 01-AFC-24C
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 publically accessible on the Energy Commission’s webpage for the facility.

If you have questions about this notice, please contact Jonathan Fong, Compliance Project Manager, at (916) 654-5005, or by fax to (916) 654-3882, or via e-mail to Jonathan.Fong@energy.ca.gov.

For information on participating in the Energy Commission's review of the petition, please call the Public Adviser at (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 to mediaoffice@energy.ca.gov.

Mail List 7152
Palomar Listserv

# PALOMAR ENERGY CENTER (01-AFC-24C)
## Petition to Modify the Final Decision
## EXECUTIVE SUMMARY

Prepared by Jonathan Fong

## INTRODUCTION

On February 22, 2013, the San Diego Gas & Electric Company (SDG&E) filed a petition with the California Energy Commission (Energy Commission) requesting to amend the Final Decision for the Palomar Energy Center (PEC). The modification(s) proposed in the petition would (1) modify certain air quality conditions of certification in the Energy Commission Decision for consistency with the most recent San Diego County Air Pollution Control District (SDAPCD) air permits to operate and (2) to upgrade the advanced gas path technology for two existing General Electric Frame 7-FA combined-cycle gas turbines.

On September 16, 2013, SDG&E requested to split the two requests into separate amendments. Staff's analysis is focused on the request to modify the Air Quality Conditions of Certification. The request to upgrade the advanced gas path technology will be evaluated in a separate staff analysis.

The purpose of the Energy Commission's review process is to assess any impacts the proposed modifications would have on environmental quality and on public health and safety. The process includes an evaluation of the consistency of the proposed changes with the Energy Commission's Final Decision and an assessment of whether the project, as modified, would remain in compliance with applicable laws, ordinances, regulations, and standards (LORS) (20 Cal. Code Regs., § 1769).

Energy Commission staff (staff) has completed its review of all materials received. The Staff Analysis below is staff's assessment of the project owner's proposal.

## PROJECT LOCATION AND DESCRIPTION

The PEC is a 500-megawatt (MW), combined-cycle, natural-gas-fired generating facility, located in the City of Escondido, in San Diego County, California. The project was certified by the Energy Commission on August 3, 2003, and began commercial operation on April1, 2006.

## DESCRIPTION OF PROPOSED MODIFICATIONS

The modifications proposed in the petition are based on the need to revise certain Air Quality Conditions of Certification for consistency with the most recent San Diego County Air Pollution Control District (SDAPCD) air permits to operate.

The proposed modifications include revisions to Air Quality Conditions of Certification **AQ-SC1, AQ-SC3, AQ-SC6, AQ-SC7, AQ-SC9, AQ-SC11, AQ-2, AQ-3, AQ-7, AQ-8, AQ-9, AQ-12** through **AQ-22, AQ-25, AQ-29, AQ-31, AQ-32, AQ-33, AQ-35, AQ-36, AQ-37, AQ-39, AQ-41, AQ-42, AQ-46, AQ-47, AQ-48, AQ-52, and AQ-53,** deletion of conditions of certification **AQ-SC5, AQ-SC10, AQ-SC12, AQ-4, AQ-5, AQ-6, AQ-10, AQ-11, AQ-23, AQ-28, AQ-30, AQ-43, AQ-44, AQ-45, AQ-49, and AQ-55, r**eplacement of conditions of certification: **AQ-1, AQ-24, AQ-26, AQ-27, AQ-40, AQ-50, AQ-51** and adding conditions of certification **AQ-67** through **AQ-83**

## NECESSITY FOR THE PROPOSED MODIFICATIONS

The proposed revisions to applicable Air Quality Conditions of Certification are necessary to be consistent with the SDAPCD permits to operate. Modifications to the Energy Commission Final Decision Air Quality Conditions of Certification would allow the project to continue to operate in compliance with the Energy Commission and the District.

## STAFF'S ASSESSMENT OF THE PROPOSED PROJECT CHANGES

The technical area sections contained in this Staff Analysis include staff-recommended changes to the existing conditions of certification. Staff's conclusions in each technical area are summarized in **Executive Summary Table 1**, below.

Energy Commission technical staff reviewed the petition for potential environmental effects and consistency with applicable LORS. Staff has determined that the technical or environmental areas of Biological Resources, Cultural Resources, Facility Design, Geological Hazards and Resources, Hazardous Materials Management, Industrial Safety and Fire Protection, Land Use, Noise and Vibration, Paleontological Resources, Public Health, Socioeconomics, Soil and Water, Traffic and Transportation, Transmission Line Safety and Nuisance, Transmission System Engineering, Visual Resources, Waste Management are not affected by the proposed changes, and no revisions or new conditions of certification are needed to ensure the project remains in compliance with all applicable LORS for these areas.

Staff determined, however, that the technical area of Air Quality would be affected by the proposed project changes and has proposed modifications to several Air Quality Conditions of Certification in order to assure compliance with LORS and to reduce potential environmental impacts to a less than significant level. The proposed conditions of certification are provided in Table 3 "Mapping of Energy Commission and District Condition Numbering with Proposed Modifications" in the Air Quality Staff Analysis section below.

**Executive Summary Table 1**
**Summary of Impacts for Each Technical Area**

| TECHNICAL AREAS REVIEWED | STAFF RESPONSE | | | Revised Conditions of Certification Recom-mended |
|---|---|---|---|---|
| | Technical Area Not Affected | No Significant Environmental Impact* | Process As Amendment | |
| Air Quality | | | X | X |
| Biological Resources | X | | | |
| Cultural Resources | X | | | |
| Efficiency | | | | |
| Facility Design | X | | | |
| Geological & Paleontological Resources | X | | | |
| Hazardous Materials Management | X | | | |
| Land Use | X | | | |
| Noise & Vibration | X | | | |
| Public Health | 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 | | | |

*There is no possibility that the proposed modifications may have a significant effect on the environment, and the modifications will not result in a change in or deletion of a condition adopted by the Commission in the Final Decision, or make changes that would cause project noncompliance with any applicable laws, ordinances, regulations, or standards (20 Cal. Code Regs., § 1769 (a)(2)).

## ENVIRONMENTAL JUSTICE

Environmental justice communities are commonly identified as those where residents are predominantly minorities or low-income; where residents have been excluded from the environmental policy setting or decision-making process; where they are subject to a disproportionate impact from one or more environmental hazards; and where residents experience disparate implementation of environmental regulations,

requirements, practices, and activities in their communities. Environmental justice efforts attempt to address the inequities of environmental protection in these communities.

An environmental justice analysis is composed of three parts:

1. identification of areas potentially affected by various emissions or impacts from a proposed project;

2. a determination of whether there is a significant population of minority persons or persons below the poverty level living in an area potentially affected by the proposed project; and

3. a determination of whether there may be a significant adverse impact on a population of minority persons or persons below the poverty level caused by the proposed project alone, or in combination with other existing and/or planned projects in the area.

## CALIFORNIA RESOURCES AGENCY

California law defines environmental justice as "the fair treatment of people of all races, cultures and income with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies" (Gov. Code §65040.12; Pub. Resources Code, §72000). All departments, boards, commissions, conservancies and special programs of the Resources Agency must consider environmental justice in their decision-making process if their actions have an impact on the environment, environmental laws, or policies. Such actions that require environmental justice consideration may include:

- adopting regulations;
- enforcing environmental laws or regulations;
- making discretionary decisions or taking actions that affect the environment;
- providing funding for activities affecting the environment; and
- interacting with the public on environmental issues.

## DEMOGRAPHIC SCREENING ANALYSIS

As part of its California Environmental Quality Act CEQA analysis for the Petition to Amend the Palomar Energy Center Decision, Energy Commission staff used demographic screening to determine whether a low-income and/or minority population exists within the potentially affected area of the Avenal Energy Project site[1]. The demographic screening is based on information contained in two documents: Environmental Justice: Guidance Under the National Environmental Policy Act (CEQ, December, 1997) and Guidance for Incorporating Environmental Justice Concerns in EPA's Compliance Analyses (U.S. EPA, April, 1998), which provides staff with

[1] Demographic screening data is presented in the end of this section.

information on outreach and public involvement. The Council on Environmental Quality document defines minority individuals as members of the following groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.

Based on the 2010 Census data presented in **Executive Summary Figure 1**, the total population within the six-mile radius of the project site was 255,789 persons with a minority population of 137,316 persons, or 53.68 percent of the total population. As the minority population is greater than fifty percent, this population constitutes an environmental justice population as defined by Environmental Justice: Guidance Under the National Environmental Policy Act, and would trigger further scrutiny for purposes of an environmental justice analysis. Staff's demographic screening also identifies the presence of below-poverty-level populations within a six-mile radius of the proposed project site. The Council on Environmental Quality and U.S. Environmental Protection Agency guidance documents identifies a fifty percent threshold to determine whether minority populations are considered environmental justice populations, but does not provide a discrete threshold for below-poverty-level populations. Using census data staff compares the below-poverty-level populations in the six-mile radius to other appropriate reference geographies. Approximately 17.11 percent or 39,273 people within the six-mile radius live below the federal poverty level, which is slightly higher than the comparison geographies (Census County Division, County, and State). If staff from the thirteen affected technical areas[2] have identified the PTA would have an effect in their technical area, the staff then considered the potential for disproportionate impacts on the environmental justice population.

## PROJECT DEMOGRAPHIC SCREENING DATA

**Table 1**
**Minority Populations within the Project Area Plus San Diego County**

| | Six-Mile Radius of Project Site | Escondido | San Marcos | Oceanside-Escondido CCD* | San Diego County | California |
|---|---|---|---|---|---|---|
| Total | 255,789 | 143,911 | 83,781 | 627,851 | 3,095,313 | 37,253,956 |
| Not Hispanic or Latino: White alone | 118,473 | 58,142 | 40,736 | 319,010 | 1,500,047 | 14,956,253 |
| Minority | 137,316 | 85,769 | 43,045 | 308,841 | 1,595,266 | 22,297,703 |
| Percent Minority | **53.68** | **59.60** | **51.38** | 49.19 | **51.54** | **59.85** |

**Notes: Bold text**- minority population is greater than 50 percent, * CCD- Census County Division.
**Source:** US Census Bureau 2010

[2] The thirteen technical staff/areas are Air Quality, Hazardous Materials Management, Land Use, Noise and Vibration, Public Health, Socioeconomics, Soil and Water Resources, Water Supply, Traffic and Transportation, Transmission Line Safety and Nuisance, Visual Resources, Cultural Resources, and Waste Management.

**Table 2**
**Poverty Data within the Project Area Plus San Diego County**

| Area | Total | | | Income in the past 12 months below poverty level | | | Percent below poverty level | | |
|---|---|---|---|---|---|---|---|---|---|
| | Estimate* | MOE | CV (%) | Estimate | MOE | CV (%) | Estimate | MOE | CV (%) |
| Cities Used to Determine Poverty Status- Escondido and San Marcos | 229,543 | ±431 | 0.11 | 39,273 | ±2,563 | 3.97 | 17.11 | ±1.12 | 3.98 |
| **Comparison Geographies** | | | | | | | | | |
| Oceanside-Escondido Census County Division | 629,406 | ±2,303 | 0.22 | 90,674 | ±3,359 | 2.25 | 14.40 | ±0.5 | 2.11 |
| San Diego County | 3,057,308 | ±1,961 | 0.04 | 441,648 | ±8,222 | 1.13 | 14.40 | ±0.3 | 1.27 |
| California | 36,913,404 | ±3,433 | 0.01 | 5,885,417 | ±40,552 | 0.42 | 15.90 | ±0.1 | 0.438 |

**Note:** * Population for whom poverty status is determined. **Source:** US Census Bureau 2013.

## STAFF RECOMMENDATIONS AND CONCLUSIONS

Staff concludes that, with the implementation of the proposed modified conditions of certification, the following required findings, mandated by Title 20, California Code of Regulations, section 1769 (a)(3), can be made, and staff recommends approval of the petition by the Energy Commission:

- There would be no new or additional unmitigated, significant environmental impacts associated with the proposed modification(s);
- The facility would remain in compliance with all applicable laws, ordinances, regulations, and standards;
- The proposed modification(s) would be beneficial to the public, and/or the applicant because the proposed changes would be consistent with the San Diego County Air Pollution Control District permits to operate and would allow the PEC to continue to operate in compliance with applicable Air Quality conditions of certification.
- The proposed modification(s) are justified because there has been a substantial change in circumstances since the Energy Commission certification which have resulted in changes to applicable air quality conditions of certification.

## REFERENCES

CEQ 1997 – Council on Environmental Quality. *Environmental Justice: Guidance Under the National Environmental Policy Act. December 10,* 1997, <http://www.epa.gov/compliance/ej/resources/policy/ej_guidance_nepa_ceq1297.pdf>.

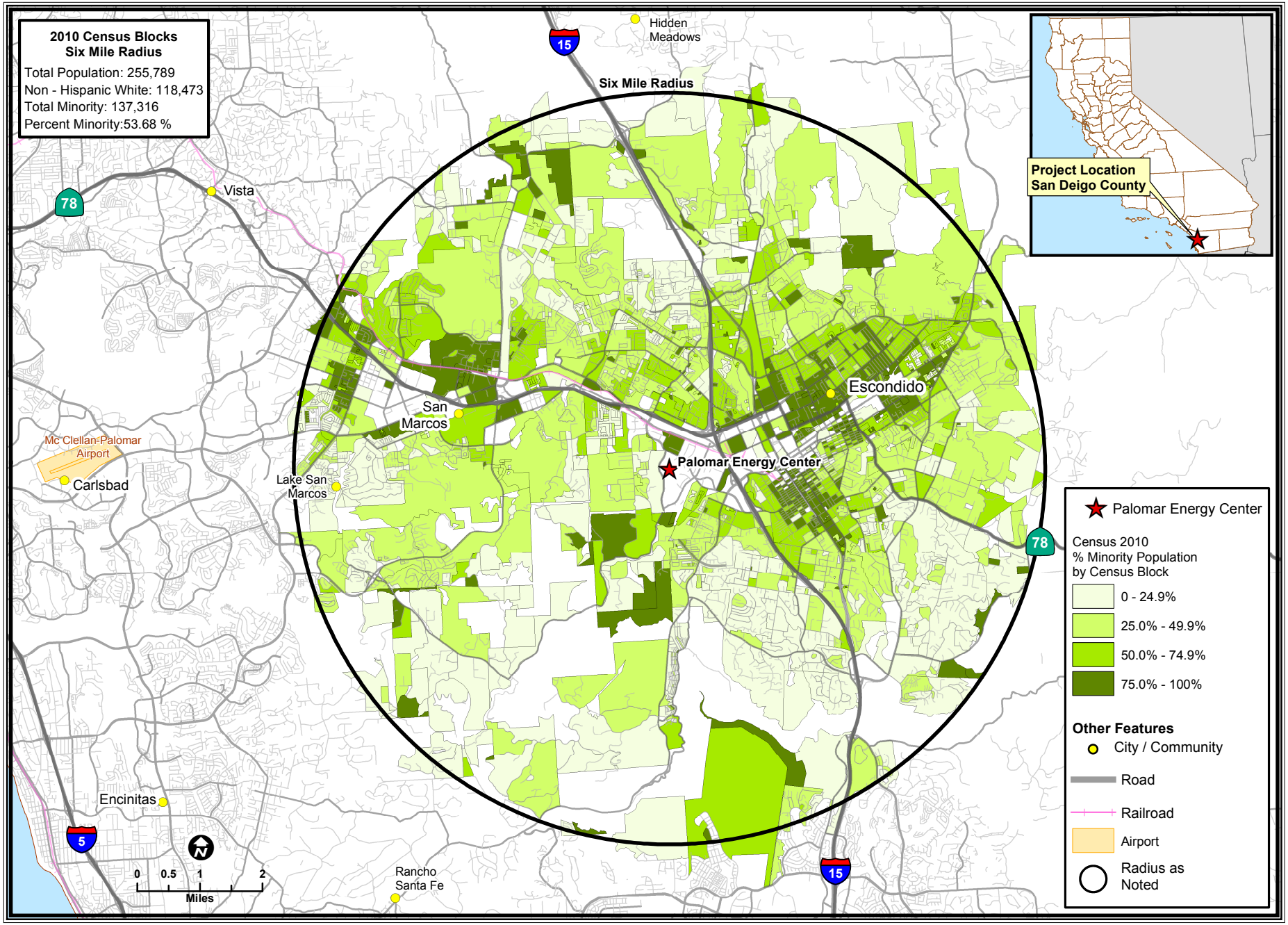
US Census Bureau 2010 – United States Census Bureau. P2: Hispanic or Latino, and Not Hispanic or Latino by Race, Universe: Total population, 2010 Census Redistricting Data (Public Law 94-171) Summary File. <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

US Census Bureau 2013 – US Census S1701 Poverty Status in the Past 12 Months 2009-2013 American Community Survey 5-Year Estimates, <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>.

US EPA 1998 – United States Environmental Protection Agency, *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses*. April 1998. <http://www.epa.gov/compliance/ej/resources/policy/ej_guidance_nepa_epa0498.pdf

## EXECUTIVE SUMMARY - FIGURE 1

Palomar Energy Center - Census 2010 Minority Population by Census Block - Six Mile Radius




EXECUTIVE SUMMARY

**CALIFORNIA ENERGY COMMISSION, SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION**

SOURCE: 01-AFC-24, Multinet, Census 2010 - PL94-171, Open Street Map City Data January 2014

# PALOMAR ENERGY CENTER (01-AFC-24C)

**Revise Air Quality Conditions of Certification**

**Wenjun Qian, Ph.D., P.E.**

## SUMMARY OF CONCLUSIONS

Staff finds that with the adoption of the attached Air Quality Conditions of Certification, the modified Palomar Energy Center (PEC or facility) would continue to comply with applicable federal, state and San Diego Air Pollution Control District (SDAPCD or District) air quality laws, ordinances, regulations and standards (LORS). The proposed modifications would not result in significant air quality or Greenhouse Gas (GHG) related impacts. There are no air quality environmental justice issues related to this amendment request and no minority or low-income populations would be significantly or adversely impacted.

## INTRODUCTION

The Energy Commission certified the Palomar Energy Center on August 6, 2003. On March 15, 2006, Palomar Energy, LLC transferred ownership of the PEC to San Diego Gas & Electric Company (SDG&E). PEC began commercial operation on April 6, 2006. On December 15, 2010, the Energy Commission approved the petition to allow SDG&E to install and operate a natural gas fired emergency-use internal combustion engine (ICE) to drive a 1,400 kilowatt (kW) critical services generator at PEC. On May 8, 2013, the Energy Commission approved a petition to allow more than one hour per week for maintenance and testing, including troubleshooting, of the critical services generator but still maintain the annual limit of 52 hours.

On February 22, 2013, SDG&E filed a petition (SDG&E 2013a) to amend the Energy Commission Decision, which includes two proposed modifications:

1. Upgrade the advanced gas path (AGP) technology for two existing General Electric (GE) Frame 7-FA combined cycle combustion gas turbines (CCGT) for improved operational efficiency; and

2. Amend certain Air Quality Conditions of Certification adopted by the Energy Commission for PEC to incorporate the conditions in the revised SDAPCD Permit to Operate (PTO).

On September 16, 2013, SDG&E requested the Energy Commission to separate the two amendments so that staff could complete the analysis for revising the Air Quality Conditions of Certification (SDG&E 2013b). SDG&E needs more time to assess the turbine upgrade by reviewing current industrial technologies available for the modification. SDG&E will send Energy Commission staff additional technical specifications on the proposed upgrade once the assessment is complete. This analysis only focuses on the second proposed amendment modification to revise the Air Quality Conditions of Certification.

## LAWS, ORDINANCES, REGULATION, AND STANDARDS (LORS) COMPLIANCE

The 2003 Decision (CEC 2003), 2010 Amended Decision (CEC 2010b), and 2013 Amended Decision (CEC 2013) concluded that the PEC complied with all applicable LORS. Staff has not identified additional applicable LORS relative to the current amendment request.

## SETTING

Since the approval of the PEC, the ambient air quality standards have become more stringent. The Air Resources Board decreased the 1-hour nitrogen dioxide ($NO_2$) California Ambient Air Quality Standard (CAAQS) from 470 micrograms per cubic meter ($\mu g/m^3$) to 339 $\mu g/m^3$, which became effective on March 20, 2008. In addition, the United States Environmental Protection Agency (U.S. EPA) adopted a new 1-hour $NO_2$ National Ambient Air Quality Standard (NAAQS), which became effective on April 12, 2010. To attain the new 1-hour $NO_2$ NAAQS, the 3-year average of the 98th percentile of the daily maximum 1-hour average $NO_2$ concentration must not exceed 100 parts per billion (ppb [188 $\mu g/m^3$]). U.S. EPA also established a new 1-hour sulfur dioxide ($SO_2$) standard at a level of 75 ppb, based on the 3-year average of the annual $99^{th}$ percentile of 1-hour daily maximum concentrations, which became effective on August 23, 2010. On December 14, 2012, U.S. EPA lowered the federal primary annual standard for particulate matter less than 2.5 microns in diameter (PM2.5) from 15 $\mu g/m^3$ to 12 $\mu g/m^3$.

Since the 2010 staff analysis about the critical services generator (CEC 2010a), the area's attainment status for federal short-term $NO_2$ standard has been updated. On February 17, 2012, U.S. EPA designated all of California as "unclassifiable/attainment" for the federal short-term $NO_2$ standard. **Air Quality Table 1** summarizes the current attainment status of the SDAPCD. The change does not affect the analysis and conclusions herein but are provided to depict the current setting.

**Air Quality Table 1**
**Area Designation for San Diego Air Pollution Control District**

| Pollutant | Attainment Status [a] | |
|---|---|---|
| | Federal | State |
| Ozone | Nonattainment | Nonattainment |
| CO | Attainment | Attainment |
| $NO_2$ | Unclassifiable/Attainment | Attainment |
| $SO_2$ | Attainment | Attainment |
| PM10 | Unclassifiable/Attainment | Nonattainment |
| PM2.5 | Unclassifiable/Attainment | Nonattainment |

Source: ARB 2014, U.S. EPA 2014
[a] Attainment = Attainment or Unclassified, where Unclassified is treated the same as Attainment for regulatory purposes.

# ANALYSIS

## MODIFICATIONS OF AIR QUALITY CONDITIONS

SDG&E proposes to update the air quality conditions of certification in the Energy Commission Decision issued in August 2003 to incorporate the conditions in the SDAPCD PTO issued in June 2011 and renewed in August 2012. Proposed changes to air quality conditions fall into three categories. The first category is related to startup and combustor tuning conditions. The second category is related to administrative changes about reporting and enforcement. The third category is related to deletion of obsolete conditions such as those dealing with commissioning and construction. **Air Quality Table 3** below provides a side-by-side comparison of the condition changes proposed by the facility owner and those as proposed by Energy Commission staff.

### Start Up and Combustor Tuning Related Conditions

### Start Up conditions

During commissioning of PEC and thereafter, SDG&E found certain issues regarding startup requirements, including a conflict between certain provisions of the Final Determination of Compliance (FDOC) and SDAPCD Rule 69.3.1. Air Quality Conditions of Certification **AQ-20** and **AQ-27** imposed nitrogen oxides (NOx) emission limits of 11.8 and 19.6 parts per million (ppm) from each turbine when operating with and without post-combustion air pollution control equipment respectively, excluding shutdowns, and extended and regular startups. Air Quality Conditions of Certification **AQ-39** and **AQ-40** defined startup as the time necessary to reach minimum operating conditions for the air pollution control equipment and to meet the normal operation emission limits. These conditions also stated that startup times are not to exceed four hours for extended startups (startups that follow a shutdown period of greater than or equal to 48 hours) and two hours for regular startups (startups that follow a shutdown period of less than 48 hours). The previous SDAPCD Rule 69.3.1 only allowed an exclusion from the normal operation emission limits for 120 minutes after startup. PEC was unable to meet the NOx ppm concentrations limit within 120 minutes of initiation of extended startups as restricted by SDAPCD Rule 69.3.1. SDG&E requested and SDAPCD granted a number of variances from SDAPCD Rule 69.3.1 since the first fire of the turbines in October 2005.

SDG&E also requested SDAPCD to amend Rule 69.3.1 to account for longer required startup times for combined cycle power plants. SDG&E also undertook two principal efforts to reduce emissions during startups: 1) installed a GE software package, OpFlex, which allows compliance with NOx limits at lower production rates; 2) further experimented and successfully demonstrated the ability to initiate ammonia injection into the selective catalytic reduction (SCR) at a lower temperature during the startup process. While SDAPCD was working on amending Rule 69.3.1, it issued a Startup Authorization to allow PEC an extended startup period of up to six hours in November 2007. SDAPCD revised Rule 69.3.1 to exempt any combined cycle gas turbine engine from the normal operation emission limits during an extended startup for a period not to exceed 360 minutes. The revised Rule 69.3.1 became effective on February 24, 2010.

SDAPCD issued a new PTO to PEC in June 2011 and renewed it in August 2012. SDG&E proposes to revise Air Quality Conditions of Certification **AQ-39** and **AQ-40** with the wording from the latest PTO regarding startup periods.

SDAPCD also revised the definition for shutdown in PTO condition 27 to be applicable to the combined cycle system. SDG&E proposes to revise Air Quality Condition of Certification **AQ-41** with the wording from the revised PTO condition 27 regarding shutdown definition. Staff agrees.

In addition, the approved Air Quality Conditions of Certification **AQ-20** (emission limit with post-combustion control) and **AQ-27** (emission limit without post-combustion control), are based on the old version of SDAPCD Rule 69.3.1. SDAPCD revised Rule 69.3.1 to clarify the applicable limit for units with installed control equipment and specify exemptions for startup and other conditions such as operating at low loads (e.g., combustor tuning). The revised SDAPCD Rule 69.3.1 limit for units without installed post-combustion control equipment does not apply to PEC. Therefore, SDG&E requested the Energy Commission delete Air Quality Condition of Certification **AQ-27** and revise **AQ-20** to provide a single concentration limit of 11.8 ppm NOx and exempt startup, shutdown, and low load operation as defined in the revised SDAPCD Rule 69.3.1. Staff agrees.

The approved Air Quality Condition of Certification **AQ-21** limits NOx emissions to 200 pounds per hour (lbs/hr) from both turbines (100 lbs/hr per turbine) during shutdowns, and extended and regular startups when operating with post-combustion air pollution control equipment. Air Quality Condition of Certification **AQ-24** limits NOx emissions to 900 lbs/hr from both turbines during commissioning period when operating without any post-combustion air pollution control equipment. SDG&E believes that the differentiation between with and without controls is a challenge for Continuous Emissions Monitoring Systems (CEMS) and startups may be described as without post-combustion control. SDG&E requested SDAPCD to delete the conditions which include the term “with post-combustion control” startup limits and instead provide a single limit of 400 lbs/hr of NOx for either one or two turbines operating during all times including periods of startup, shutdown, low load operation and tuning. SDG&E states that this limit is less than half of the “without post-combustion control” limit (900 lbs/hr NOx for both turbines) for commissioning period in Air Quality Condition of Certification **AQ-24**.

In May 2006, SDG&E submitted an impact analysis of the proposed single limit of 400 lbs/hr of NOx emissions to SDAPCD (SDG&E 2006). The May 2006 impact analysis included three worst case startup scenarios: 1) two turbines at 50 percent load conditions each emitting NOx at 200 lbs/hr; 2) two turbines at 20 percent load conditions each emitting NOx at 200 lbs/hr; and 3) one turbine at 20 percent load emitting NOx at 400 lbs/hr. The two load conditions (20 percent and 50 percent) represent the range of stack conditions that SDG&E expects to occur during startup. The May 2006 impact analysis showed compliance with then applicable California Ambient Air Quality Standard (CAAQS) for 1-hour nitrogen dioxide ($NO_2$) of 470 $\mu g/m^3$. The District approved the revised startup NOx emissions limit of 400 lbs/hr in the Startup

Authorizations issued in November 2007. The District's PTO (issued in 2011 and revised in 2012) incorporated this revised startup NOx emissions limit.

In the mean time, the Air Resources Board decreased the 1-hour $NO_2$ CAAQS from 470 $\mu g/m^3$ to 339 $\mu g/m^3$, which became effective on March 20, 2008. In addition, the U.S. Environmental Protection Agency (U.S. EPA) adopted a new 1-hour $NO_2$ National Ambient Air Quality Standard (NAAQS) which became effective on April 12, 2010. To attain the new 1-hour $NO_2$ NAAQS, the 3-year average of the $98^{th}$ percentile of the daily maximum 1-hour average $NO_2$ concentration must not exceed 100 ppb (188 $\mu g/m^3$).

Staff performed an independent modeling analysis to evaluate the worst case impact relative to the current state and federal 1-hour $NO_2$ standards. Staff used the most recent version of the American Meteorological Society/Environmental Protection Agency Regulatory Model known as AERMOD (version 14134) with the meteorological input, ozone ($O_3$), and $NO_2$ background data measured at the Escondido station during 2010 to 2012. Staff evaluated the same worst case startup scenarios analyzed in the May 2006 analysis. Staff used the Plume Volume Molar Ratio Method (PVMRM) option in AERMOD with the in-stack $NO_2$/NOx ratio of 0.4 (from the 2006 impact analysis) to evaluate the $NO_2$ impacts.

**Air Quality Table 2** summarizes the results of staff's modeling analysis for the current state and federal 1-hour $NO_2$ standards. For the state 1-hour $NO_2$ standard, the worst case total impacts are based on the sum of the worst case modeled impacts and the maximum background measured during 2010 to 2012. For the federal 1-hour $NO_2$ standard, staff computed the three year average of 98th percentile daily maximum total impacts based on the hourly project impacts combined with the concurrent ambient background $NO_2$ concentrations during the modeling years 2010 to 2012. The modeled results are conservative, since the maximum impacts are evaluated under a combination of highest allowable emission rates, the most extreme meteorological conditions, and worst case background values, which are unlikely to all occur simultaneously. **Air Quality Table 2** shows that PEC would not cause new exceedances of the currently applicable state or federal 1-hour $NO_2$ standards with the total combined $NO_x$ emissions of 400 lbs/hr from both turbines.

**Air Quality Table 2**
**Maximum Startup $NO_2$ impacts Evaluated for CAAQS and NAAQS (µg/m$^3$) [a]**

| $NO_2$ Standards | Case | | Modeled Impact | Background | Total Impact | Limiting Standard | Percent of Standard |
|---|---|---|---|---|---|---|---|
| State 1-hour $NO_2$ | 200 lbs/hr x 2 with 50% load | | 185.5 | 120.3 | 305.8 | 339 | 90.2 |
| | 200 lbs/hr x 2 with 20% load | | 203.1 | 120.3 | 323.4 | 339 | 95.4 |
| | 400 lbs/hr x 1 with 20% load | East turbine | 204.8 | 120.3 | 325.1 | 339 | 95.9 |
| | | West turbine | 206.7 | 120.3 | 327.0 | 339 | 96.5 |
| Federal 1-hour $NO_2$ [b] | 200 lbs/hr x 2 with 50% load | | - | - | 144.0 | 188 | 76.6 |
| | 200 lbs/hr x 2 with 20% load | | - | - | 148.0 | 188 | 78.7 |
| | 400 lbs/hr x 1 with 20% load | East turbine | - | - | 148.4 | 188 | 78.9 |
| | | West turbine | - | - | 148.1 | 188 | 78.8 |

Source: Energy Commission staff analysis with the stack parameters from the 2006 impact analysis sent to the District (SDG&E 2006) and meteorological, $O_3$ and $NO_2$ files from the District

Notes: [a] Staff used the Plume Volume Molar Ratio Method (PVMRM) with the in-stack $NO_2$/NOx ratio of 0.4 (from the 2006 impact analysis) in AERMOD (version 14134) to evaluate the $NO_2$ impacts.

[b] For the federal 1-hour $NO_2$ standard, staff computed the three year average of 98th percentile daily maximum total impacts based on the hourly project impacts combined with the concurrent ambient background $NO_2$ concentrations during the modeling years 2010 to 2012.

Staff agrees that Air Quality Condition of Certification **AQ-21** could be revised with the wording from PTO condition 16. SDG&E proposes to replace **AQ-21** with Air Quality Condition of Certification **AQ-24**, which would be revised with the wording from current PTO condition 16. But staff proposes to revise Air Quality Condition of Certification **AQ-21** with the wording from PTO condition 16 and delete Air Quality Condition of Certification **AQ-24** instead, since **AQ-24** only applies during commissioning period and is obsolete.

In the current PTO condition 17, the District also replaced the “with post-combustion control” startup limit of 3,384 lbs/hr of carbon monoxide (CO) for both turbines with a single limit of 2,000 lbs/hr for either one or two turbines operating during all times including periods of startup, shutdown, low load operation and tuning. This limit is half of the “without post-combustion control” CO limit of 4,000 lbs/hr for both turbines for commissioning period in Air Quality Condition of Certification **AQ-26**. The District’s Final Determination of Compliance (FDOC) for PEC dated December 6, 2002 (SDAPCD 2002) showed compliance with the 1-hour and 8-hour CO CAAQS and NAAQS with the CO limit of 4,000 lbs/hr during commissioning. Staff believes that with the reduced CO

emissions limit of 2,000 lbs/hr, PEC would continue to comply with the CO ambient air quality standards. SDG&E proposes to replace Air Quality Condition of Certification **AQ-22** with Air Quality Condition of Certification **AQ-26**, which would be revised with the wording from current PTO condition 17. But staff proposes to revise Air Quality Condition of Certification **AQ-22** with the wording from PTO condition 17 and delete Air Quality Condition of Certification **AQ-26** instead, since **AQ-26** only applies during commissioning period and is obsolete.

SDAPCD also added PTO condition 23 to allow early injection of ammonia to reduce startup NOx emissions. Staff proposes to add this condition as Air Quality Condition of Certification **AQ-71**.

## Combustor Tuning Conditions

The dry low NOx (DLN) combustion systems require periodic tuning (i.e., maintenance) to account for changes in ambient conditions, fuel conditions, and normal component wear. SDG&E conducts DLN tuning in accordance with GE's fleet-wide recommendations.

SDG&E indicates that the DLN tuning is similar to the startup modes of operation in that the turbine is brought up to full speed no load (FSNL), then a load is applied, and gradually increased during the tuning event. However, the load fluctuates during the course of ramping up to higher loads. The exhaust parameters associated with low load conditions will drop below the SCR manufacturer's recommended operating temperature for ammonia injection. The oxidation catalyst effectiveness will vary with its operating temperature, which will generally be below its effective operating temperature during tuning. For these reasons, during DLN tuning, PEC is unable to comply with emission limits applicable to normal operations.

SDG&E states that the peak hourly emission for tuning events are less than or equal to the maximum emission measured for startups (e.g., 400 lbs/hr of NOx and 2,000 lbs/hr of CO). The current PTO incorporates tuning events into the startup limits and excludes tuning events from the emissions limits applicable during normal operations. The PTO condition 30 also requires that only one turbine be tuned at any given time and tuning events shall not exceed 480 minutes in a calendar day nor exceed 40 hours in a calendar year. SDG&E requests the Energy Commission to amend and to clarify certain conditions of certification by incorporating tuning events into the startup limits and excluding tuning events from the standards imposed for normal operations. Staff agrees.

## Administrative Changes

SDG&E proposes administrative changes to the Energy Commission approved conditions of certification with the wording from the current SDAPCD PTO. Staff has analyzed the proposed changes and agrees with most of the proposed changes. But staff also proposes to either keep some conditions of certification or make additional changes. The discussion of the SDG&E and staff proposed changes is listed below.

1. SDG&E proposes to add wording from PTO condition 41 to Air Quality Condition of Certification **AQ-SC7**. **AQ-SC7** requires the facility owner to submit Quarterly Operational Reports, which are required by SDAPCD Rule 19.2. PTO condition 41 requires compliance with Rule 19.2 regarding CEMS maintenance, operation, and reporting requirements. Staff agrees that the addition of the language from PTO condition 41 would provide more clarifications on the compliance requirements for the CEMS.

2. In the petition for amendment (SDG&E 2013a), SDG&E proposed to delete Air Quality Conditions of Certification **AQ-SC8** and **AQ-SC9** regarding monitoring and recording the cooling tower daily circulating water flow and the cooling tower annual PM10 emissions limit. SDG&E states that: 1) the maximum flow was used in the initial compliance demonstration; 2) actual flow may be less than or equal to maximum and thus does not influence compliance; 3) compliance is assured by monitoring total dissolved solids and operating within the limit stated in Air Quality Condition of Certification **AQ-35**. Staff noticed that condition **AQ-SC9** limits the annual PM10 emissions from the cooling tower to 5.7 ton/year and the drift elimination efficiency to 0.0005 percent, which are not covered in Air Quality Condition of Certification **AQ-35**. Staff believes it is necessary to keep Air Quality Condition of Certification **AQ-SC9**. In addition, the facility owner needs to demonstrate compliance with the annual PM10 emissions limit in **AQ-SC9** by using the water quality test data from **AQ-35** and the water flow rates from Air Quality Condition of Certification **AQ-SC8**. After further discussions with staff, SDG&E agreed to keep Air Quality Conditions of Certification **AQ-SC8** and **AQ-SC9** and continue to report to these conditions.

3. SDG&E proposes to delete Air Quality Condition of Certification **AQ-1** because it is too generalized to verify compliance. Required monitoring, reporting and recordkeeping are specified in other conditions. Air Quality Condition of Certification **AQ-52** (PTO condition 46) requires records to be retained for five years, which is consistent with the Title V program and could replace Air Quality Condition of Certification **AQ-1**. Staff agrees. Staff also proposes to revise Air Quality Condition of Certification **AQ-52** with the wording from PTO condition 46 so that it applies to all the conditions in the permit.

4. Staff proposes to make minor revisions to Air Quality Condition of Certification **AQ-3** with the wording from the PTO condition 47.

5. SDG&E proposes to revise Air Quality Condition of Certification **AQ-8** to replace the sulfur content limit of 0.75 grains per 100 standard cubic feet in the natural gas with the use of Public Utility Commission (PUC) quality natural gas only. SDAPCD determined that compliance with the sulfur content limit can be maintained using PUC quality natural gas. Staff agrees. SDG&E also proposes to maintain the quarterly records of the fuel sulfur content data and higher and lower heating values and make the data available for inspection and delete the requirement of submitting the data to the Compliance Project Manager (CPM) in the Quarterly Operational Report (**AQ-SC7**). Staff agrees.

6. SDG&E proposes to replace Air Quality Conditions of Certification **AQ-9**, **AQ-12**, and **AQ-29** with current PTO conditions 38, 43, and 44. **AQ-9**, **AQ-12**, and **AQ-29** contain obsolete references to initial startup and CEMS installation, while current PTO conditions 38, 43, and 44 specify more detailed requirements for CEMS operation, maintenance and calibration. Staff believes that replacing **AQ-9**, **AQ-12**, and **AQ-29** with current PTO conditions 38, 43, and 44 would clarify current monitoring requirements.

7. SDG&E proposes to revise Air Quality Condition of Certification **AQ-13** with the wording from PTO condition 37 to address oxygen ($O_2$) CEMS requirements and provide correct reference to the Code of Federal Regulations (CFR) regarding the CO CEMS requirements. Staff agrees.

8. SDG&E proposes to revise Air Quality Condition of Certification **AQ-14** with the wording from PTO condition 42 to provide clarification regarding notification timing and compliance requirements for changes in the CEMS software. Staff agrees.

9. SDG&E proposes to revise the reporting and enforcement requirements of source tests in Air Quality Conditions of Certification **AQ-15**, **AQ-16**, and **AQ-47** with the wording from current PTO conditions 32, 33 and 35 so that they would be consistent with current Code of Federal Regulation requirements. However, the SDG&E proposed revisions do not cover the current PTO condition 33 completely. Staff proposes to revise Air Quality Conditions of Certification **AQ-15** and **AQ-16** to cover both PTO conditions 33 and 35. For the verification of **AQ-16**, staff proposes to change the timeline for notifying the CPM and the District of the Relative Accuracy Test Audit (RATA) test date from 45 days to 21 days (instead of the facility owner proposed 30 days) before conducting the test so that it is consistent with the proposed revisions in **AQ-16** itself.

   SDG&E proposes to revise Air Quality Condition of Certification **AQ-47** with the wording from current PTO condition 32 regarding the source test frequencies. The approved verification for **AQ-47** specifies requirements applicable if the source tests are not conducted by the District, which is addressed in more detail in current PTO condition 34. SDG&E requests to add PTO condition 34 as a new condition of certification and delete corresponding sentence in the verification for **AQ-47**. Staff agrees that Air Quality Condition of Certification **AQ-47** could be modified as proposed and proposes PTO condition 34 to be added as Air Quality Condition of Certification **AQ-77**. For the verification of **AQ-77**, staff proposes to add requirements to make sure the Energy Commission is aware of the submittal of the source test protocol to the District and corresponding District approval.

   SDG&E also proposes to add current PTO condition 35 regarding the timing to submit source test reports as a new condition of certification. Staff proposes to add it as Air Quality Condition of Certification **AQ-78**.

10. SDG&E proposes to update Air Quality Condition of Certification **AQ-17** with wording from the current PTO condition 18 to address the fact that the potential to emit was not increased. Air Quality Conditions of Certification **AQ-9**, **AQ-13**, and other conditions specify compliance requirements for CEMS, thus the corresponding requirements for CEMS in **AQ-17** could be deleted. Staff agrees. Staff also proposes to make similar revisions in Air Quality Condition of Certification **AQ-18** with the wording from the current PTO condition 19.

11. SDG&E proposes to update Air Quality Condition of Certification **AQ-19** to change the frequency of NOx and VOC monitoring records from monthly to quarterly basis as approved by SDAPCD in current PTO condition 20. Staff agrees.

12. SDG&E proposes to replace Air Quality Condition of Certification **AQ-25** with current PTO condition 25 to identify the current requirements for the ammonia injection system. The approved Air Quality Condition of Certification **AQ-25** includes obsolete references to initial startup and installation. The current PTO condition 25 addresses the most recent operating and maintenance requirements for control equipment. Staff agrees.

13. SDG&E proposes to revise Air Quality Conditions of Certification **AQ-31**, **AQ-32**, **AQ-33**, and **AQ-SC11** with the wording from current PTO conditions 5, 6, 7, and 8 regarding when the emission limits would be achieved. During the initial testing of the the gas turbine/heat recovery steam generator train, SDG&E found the New Source Review (NSR) limits were not achieved until the gas turbine begins operating in Mode 6 (Dry Low-NOx Mode). SDAPCD determined that the NSR and Rule 69.3.1 limits do not apply during startup, shutdown, low load operation, or tuning and revised Rule 69.3.1 on February 24, 2010. SDAPCD issued a PTO to PEC in June 2011. Staff proposes to revise Air Quality Conditions of Certification **AQ-31**, **AQ-32**, **AQ-33**, and **AQ-SC11** with wording from current PTO conditions 5, 6, 7, and 8. Staff also proposes to delete obsolete references to initial source testing and refer to Air Quality Condition of Certification **AQ-16** for annual source testing in **AQ-31**. For the verification of **AQ-33**, staff proposes to keep the requirement of submitting calculations (in addition to CEMS data and annual source test data) of the volatile organic compounds (VOC) emissions as part of the quarterly report, which was left out in the facility owner proposed revisions.

14. SDG&E proposes to revise Air Quality Condition of Certification **AQ-35** with wording from current PTO condition 22 regarding the testing of the total dissolved solids (TDS) concentration of the water used in the cooling towers. SDAPCD eliminated reference to “reclaimed” water in the current PTO condition 22. SDG&E is allowed to use raw water as a backup supply as approved by the Energy Commission in 2006. SDAPCD also specifies that the quarterly testing of the water should be conducted by a certified lab using EPA approved methods. Staff agrees.

15. SDG&E proposes to revise Air Quality Conditions of Certification **AQ-36** and **AQ-37** with wording from current PTO conditions 14 and 15 regarding emission limits with or without duct firing. SDAPCD determined that emission limits should be based on the firing rate of the duct burner, whether it is above or below 19.5 Million British Thermal Units per hour (MMBTU/hr), instead of with or without the duct firing. Staff agrees.

16. SDG&E proposes to delete the requirement of annual source test of the PM10 emissions in Air Quality Condition of Certification **AQ-42**, because the frequency of testing is addressed in Air Quality Condition of Certification **AQ-47** (PTO condition 32). Staff agrees. For the verification of the condition, staff also proposes to refer to **AQ-47** for source test requirements.

17. Staff proposes to revise Air Quality Condition of Certification **AQ-46** to include more detailed requirements for the toxic air contaminant emissions testing from current PTO condition 36.

18. Staff proposes to revise Air Quality Condition of Certification **AQ-48** to include more details regarding compliance with the federal hazardous air pollutant emissions limit from current PTO condition 21.

19. SDG&E proposes to delete the general Air Quality Conditions of Certification **AQ-50** and **AQ-51** regarding calculations of one-hour and three-hour averaged emissions. SDAPCD determined these conditions are not necessary for compliance monitoring because calculations are based on the approved CEMS protocol required in Air Quality Condition of Certification **AQ-9**. Staff agrees that **AQ-50** and **AQ-51** could be deleted and replaced by Air Quality Condition of Certification **AQ-9**.

20. SDG&E proposes to replace Air Quality Condition of Certification **AQ-53** with current PTO condition 3 regarding compliance with Federal Acid Rain Program. **AQ-53** includes the obsolete requirement of submitting an application for a Title IV Operating Permit prior to the initial startup. The current PTO condition 3 requires on-going compliance with the 40 CFR 73 Sulfur Dioxide ($SO_2$) Allowance System, which is not in the Energy Commission approved conditions of certification. Staff agrees that the approved **AQ-53** is obsolete and the current PTO condition 3 can be incorporated into a revised Air Quality Condition of Certification **AQ-53**.

## Obsolete Conditions

SDG&E proposes removal of obsolete conditions that are no longer required to meet regulatory compliance and are not part of the daily operations of the facility. These obsolete conditions are related to construction, commissioning, or completed portion of the operations. Staff agrees that some of the conditions are obsolete but some conditions still apply to current and future operations or any future construction activities. The detailed discussion of these conditions is provided as follows.

1. SDG&E proposes to delete Air Quality Conditions of Certification **AQ-SC1** through **AQ-SC4**, which specify compliance requirements during construction period. Staff believes **AQ-SC1** through **AQ-SC4** should be retained as needed to control any future construction activities.

2. SDG&E proposes to delete Air Quality Condition of Certification **AQ-SC5** and **AQ-49** regarding the surrender of the emission reduction credits (ERCs). Because the ERCs were surrendered prior to initial startup, staff agrees that these conditions are obsolete and could be deleted.

3. In the petition for amendment (SDG&E 2013a), SDG&E originally proposed to delete Air Quality Condition of Certification **AQ-SC6** which requires the facility owner to submit to Energy Commission CPM for review and approval any proposed modifications to any project air permit. SDG&E believes Energy Commission does not necessarily need to approve any proposed air permit modifications that haven't been approved yet. Staff agrees but still would like to review approved modifications in the air permit. After further discussions with staff, SDG&E agreed to submit to the CPM for review any significant modifications approved by the issuing agency to any project air permit. SDG&E proposes to submit such information within the most current Quarterly Operational Report. Staff agrees.

4. SDG&E proposes to delete Air Quality Condition of Certification **AQ-SC10** which requires payment of the PM10 mitigation fee to SDAPCD. The PM10 mitigation fee was paid according to the timeline specified in **AQ-SC10**. Staff agrees that **AQ-SC10** is obsolete and could be deleted.

5. SDG&E proposes to delete Air Quality Conditions of Certification **AQ-4**, **AQ-5**, and **AQ-6** regarding obtaining permits prior to on-site delivery of the equipment, requirement on the exhaust stack height, and submission of design details of the SCR and oxidation catalyst. Compliance with these conditions was demonstrated before or during the construction period. Staff agrees that **AQ-4**, **AQ-5**, and **AQ-6** are obsolete and can be deleted.

6. For the verification of Air Quality Condition of Certification **AQ-7**, SDG&E proposes to delete the language requiring submission of detailed plan drawing of the turbine stacks that show the sampling ports and demonstration of compliance with the requirements of the condition prior to construction, which was completed. Staff agrees.

7. SDG&E proposes to delete Air Quality Conditions of Certification **AQ-10** and **AQ-11** which require the facility owner to submit a CEMS protocol and a protocol of determining the CO/VOC surrogate relationship prior to initial startup. Staff agrees that **AQ-10** and **AQ-11** are obsolete and can be deleted.

8. SDG&E proposes to delete Air Quality Conditions of Certification **AQ-23** and **AQ-28** regarding definition and reporting requirements for the commissioning period. Staff agrees that **AQ-23** and **AQ-28** are obsolete and can be deleted.

9. SDG&E proposes to delete Air Quality Condition of Certification **AQ-30**, which defines that the "on-going" operations should commence immediately following the end of commissioning period. Since the facility is already operating according to on-going conditions, staff agrees that **AQ-30** is obsolete and can be deleted.

10. SDG&E proposes to delete Air Quality Conditions of Certification **AQ-43**, **AQ-44**, and **AQ-45** regarding the requirements for the initial source tests, which were completed after commissioning period. Staff agrees that **AQ-43**, **AQ-44**, and **AQ-45** are obsolete and can be deleted.

11. SDG&E proposes to delete Air Quality Condition of Certification **AQ-55**, which requires the facility owner to submit the Title V Operating Permit application to the District within 12 months after initial startup. Compliance with this condition was completed, thus staff agrees that **AQ-55** is obsolete and can be deleted.

In addition to the above mentioned modifications, staff also proposes to delete Air Quality Condition of Certification **AQ-SC12** regarding the greenhouse gas (GHG) reporting to the Energy Commission. The GHG reporting is already required under the California Air Resources Board's mandatory reporting requirements under the California Global Warming Solutions Act of 2006 (AB 32) which was implemented in late 2008, thus **AQ-SC12** is obsolete and can be deleted.

## New Conditions

SDAPCD added several new conditions in the PTO that do not have equivalent conditions in the Energy Commission approved conditions of certification. For example, SDAPCD issued permit conditions to allow injection of ammonia into the SCR at lower temperatures, which helps to reduce startup emissions, and additional permit conditions to clarify monitoring and reporting, as well as to formalize the applicable emission limit of SDAPCD Rule 69.3. Staff proposes to add the current PTO conditions 4, 10, 12, 13, 23, 24, 26, 29, 30, 31, 34, 35, 39, 40, 45, 48, and 49 to the Air Quality Conditions of Certification starting from **AQ-67**.

The new air quality conditions would improve understanding and enforceability, and help to make compliance more straightforward.

Current PTO condition 40 requires any violation of any emission standard be reported to the District. SDG&E did not propose to add the current PTO condition 40 as a new condition of certification because SDG&E believes it is incorporated by reference in PTO condition 41 (Rule 19.2[d]), which is proposed to be included in Air Quality Condition of Certification **AQ-SC7**. Staff believes PTO condition 40 should be added as a new condition of certification (proposed as Air Quality Condition of Certification **AQ-80**) to explicitly require any violation of any emission standard be reported to the District and to the Energy Commission.

Current PTO condition 48 specifies that the District permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies. SDG&E believes this condition is not relevant to air quality compliance operations thus did not propose to add it as a new condition of certification. However, Energy Commission approved a similar condition (Air Quality Condition of Certification **AQ-66**) for the emergency engine generator. Staff believes PTO condition 48 should be added as a new condition of certification (proposed as Air Quality Condition of Certification **AQ-82**) to improve understanding and enforceability for the power station Units No. 1 and No. 2.

Staff believes the proposed changes in the conditions of certification would not affect the annual fuel use or the greenhouse gas (GHG) emission profiles of PEC. The proposed changes would not result in air quality or GHG impacts that are cumulatively significant. There are no air quality environmental justice issues related to this amendment request and no minority or low-income populations would be significantly or adversely impacted.

## CONCLUSIONS AND RECOMMENDATIONS

The proposed modifications in the conditions of certification would not affect the facility's ability to continue to comply with applicable federal, state, and SDAPCD air quality laws, ordinances, regulations, and standards (LORS). The proposed modifications would not cause significant air quality or GHG impacts. Therefore, there are no air quality environmental justice issues related to this amendment request and no minority or low-income populations would be significantly or adversely impacted. Staff recommends that the revised conditions of certification be approved as shown below.

## PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Staff has proposed modifications to the Air Quality Conditions of Certification as shown below. For completeness, all Air Quality Conditions of Certification are shown, those that need changes and those that do not change. The proposed changes in the conditions of certification are applicable to the power stations Units No. 1 and No. 2. The conditions of certification applicable to the emergency engine generator (Air Quality Conditions of Certification **AQ-SC13** and **AQ-56** through **AQ-66**) do not change. The proposed changes in the conditions of certification match the current SDAPCD permit requirements. ~~Strikethrough~~ is used to indicate deleted language and **<u>underline and bold</u>** is used for new language. **Appendix 1** includes a clean version of the finalized conditions of certification as they would apply if the staff-recommended changes are approved by the Energy Commission.

**AIR QUALITY Table 3** summarizes the relationship between Energy Commission conditions of certification numbering and District condition numbering and proposed modifications to each condition.

## AIR QUALITY Table 3
## Mapping of Energy Commission and District Condition Numbering with Proposed Modifications

| Energy Commission COCs Numbering | District Condition Numbering | Facility Owner Proposed Modifications | Staff Proposed Modifications |
|---|---|---|---|
| **AQ-SC1** | (none) | Delete (obsolete) | Staff believes this condition should be retained as needed to control any future construction activities. |
| **AQ-SC2** | (none) | Delete (obsolete) | Staff believes this condition should be retained as needed to control any future construction activities. |
| **AQ-SC3** | (none) | Delete (obsolete) | Staff believes this condition should be retained as needed to control any future construction activities. |
| **AQ-SC4** | (none) | Delete (obsolete) | Staff believes this condition should be retained as needed to control any future construction activities. |
| **AQ-SC5** | (none) | Delete (obsolete) | Same |
| **AQ-SC6** | (none) | Delete | Staff proposes to revise **AQ-SC6** to require the facility owner to submit any significant modifications approved by the issuing agency to any project air permit within the most current Quarterly Operational Report. SDG&E agrees. |
| **AQ-SC7** | 41 | Add wording from PTO condition 41 | Same |
| **AQ-SC8** | (none) | Delete | Staff proposes to keep this condition and the facility owner agrees. See details in the text. |
| **AQ-SC9** | (none) | Delete | Staff proposes to keep this condition and the facility owner agrees. See details in the text. |
| **AQ-SC10** | (none) | Delete (obsolete) | Same |
| **AQ-SC11** | 8 | Revise | Same |
| **AQ-SC12** | (none) | None | Delete (obsolete) |
| **AQ-SC13** | (none) | None | Same |
| **AQ-1** | (none) | Replace by AQ-52 | Same |
| **AQ-2** | 1 | None | Same |
| **AQ-3** | 47 | None | Staff proposes to make minor revisions to **AQ-3**, which would match the wording sequence from the current PTO condition 47. |
| **AQ-4** | (none) | Delete (obsolete) | Same |
| **AQ-5** | (none) | Delete (obsolete) | Same |
| **AQ-6** | (none) | Delete (obsolete) | Same |
| **AQ-7** | (none) | Delete verification language requiring submission of detailed plan drawings and | Same |

| Energy Commission COCs Numbering | District Condition Numbering | Facility Owner Proposed Modifications | Staff Proposed Modifications |
|---|---|---|---|
| | | demonstration of compliance with the condition prior to construction | |
| **AQ-8** | 2 | Revise | Same |
| **AQ-9** | 38 | Revise | Staff proposes to correct a typographical error in the abbreviation of parts per million (dry basis) from “pmvd” to “ppmvd” in part K of the condition. |
| **AQ-10** | (none) | Delete (obsolete) | Same |
| **AQ-11** | (none) | Delete (obsolete) | Same |
| **AQ-12** | 43 | Revise | Same |
| **AQ-13** | 37 | Revise | Same |
| **AQ-14** | 42 | Revise | Same |
| **AQ-15** | 33 | Revise | Same |
| **AQ-16** | 33, 35 | Revise | The SDG&E proposed revisions do not cover the current PTO condition 33 completely. Staff proposes to revise **AQ-15** and **AQ-16** to cover both PTO conditions 33 and 35. For the verification of **AQ-16**, staff proposes to change the timeline for notifying the CPM and the District of the Relative Accuracy Test Audit (RATA) test date from 45 days to 21 days (instead of the facility owner proposed 30 days) before conducting the test so that it is consistent with the proposed revisions in **AQ-16** itself. |
| **AQ-17** | 18 | Revise | Same |
| **AQ-18** | 19 | None | Staff proposes to revise this condition with the wording from the PTO condition 19. |
| **AQ-19** | 20 | Revise | Same |
| **AQ-20** | 9 | Revise | Same |
| **AQ-21** | 16 | Replace by **AQ-24** | Revise with text from PTO condition 16 |
| **AQ-22** | 17 | Replace by **AQ-26** | Revise with text from PTO condition 17 |
| **AQ-23** | (none) | Delete (obsolete) | Same |
| **AQ-24** | 16 | Revise with text from PTO condition 16 | Replace by **AQ-21** |
| **AQ-25** | 25 | Revise | Same |
| **AQ-26** | 17 | Revise with text from PTO condition 17 | Replace by **AQ-22** |
| **AQ-27** | 9 | Replace by **AQ-20** | Same |
| **AQ-28** | (none) | Delete (obsolete) | Same |
| **AQ-29** | 44 | Revise | Same |

| Energy Commission COCs Numbering | District Condition Numbering | Facility Owner Proposed Modifications | Staff Proposed Modifications |
|---|---|---|---|
| **AQ-30** | (none) | Delete (obsolete) | Same |
| **AQ-31** | 5 | Revise | Staff proposes to revise **AQ-31** with the wording from PTO condition 5, delete the obsolete references to initial source testing and add reference to **AQ-16** for annual source testing. |
| **AQ-32** | 6 | Revise | Staff proposes to revise **AQ-32** with the wording from PTO condition 6. |
| **AQ-33** | 7 | Revise | Staff proposes to revise **AQ-33** with the wording from PTO condition 7. For the verification of this condition, staff proposes to keep the requirement of submitting calculations of the volatile organic compounds (VOC) emissions as part of the quarterly report, which was left out in the facility owner proposed revisions. |
| **AQ-34** (Replaced by **AQ-SC11** [CEC 2003]) | 8 | See **AQ-SC11** | See **AQ-SC11** |
| **AQ-35** | 22 | Revise | Same |
| **AQ-36** | 14 | Revise | Same |
| **AQ-37** | 15 | Revise | Same |
| **AQ-38** | (none) | None | Same |
| **AQ-39** | 28 | Revise | Same |
| **AQ-40** | 28 | Replace by **AQ-39** | Same |
| **AQ-41** | 27 | Revise | Same |
| **AQ-42** | 11 | Revise | For the verification of the condition, staff proposes to refer to **AQ-47** for source test requirements. |
| **AQ-43** | (none) | Delete (obsolete) | Same |
| **AQ-44** | (none) | Delete (obsolete) | Same |
| **AQ-45** | (none) | Delete (obsolete) | Same |
| **AQ-46** | 36 | None | Staff proposes to revise **AQ-46** to include more detailed requirements for the toxic air contaminant emissions testing from current PTO condition 36. |
| **AQ-47** | 32, 35 | Revise | Same |
| **AQ-48** | 21 | None | Staff proposes to revise **AQ-48** to include more details regarding compliance with the federal hazardous air pollutant emissions limit from current PTO condition 21. |
| **AQ-49** | (none) | Delete (obsolete) | Same |
| **AQ-50** | (none) | Replace by **AQ-9** | Same |

| Energy Commission COCs Numbering | District Condition Numbering | Facility Owner Proposed Modifications | Staff Proposed Modifications |
|---|---|---|---|
| **AQ-51** | (none) | Replace by **AQ-9** | Same |
| **AQ-52** | 46 | Replace "Conditions **AQ-1** through **AQ-55**" with the term "these conditions" | Staff proposes to replace "Conditions **AQ-1** through **AQ-55**" with the term "this written permit", which matches the PTO so that **AQ-52** applies to all the conditions in the permit. |
| **AQ-53** | 3 | Replace by PTO condition 3 | Same |
| **AQ-54** | 37 | None | Same |
| **AQ-55** | (none) | Delete (obsolete) | Same |
| **AQ-56** through **AQ-66** | PTO for the emergency engine generator (APCD2011-PTO-000873) | None | Same |
| **AQ-67** | 4 | New | Same |
| **AQ-68** | 10 | New | Same |
| **AQ-69** | 12 | New | Same |
| **AQ-70** | 13 | New | Same |
| **AQ-71** | 23 | New | Same |
| **AQ-72** | 24 | New | Same |
| **AQ-73** | 26 | New | Same |
| **AQ-74** | 29 | New | Same |
| **AQ-75** | 30 | New | Same |
| **AQ-76** | 31 | New | Same |
| **AQ-77** | 34 | New | For the verification of the condition, staff proposes to add requirements to make sure the Energy Commission is aware of the submittal of the source test protocol to the District and corresponding District approval. |
| **AQ-78** | 35 | New | Same |
| **AQ-79** | 39 | New | Same |
| **AQ-80** | 40 | None. PTO condition 40 is incorporated by reference in PTO condition 41 (Rule 19.2[d]) | Staff proposes to add PTO condition 40 as **AQ-80** to explicitly require any violation of any emission standard be reported to the District and to the Energy Commission. |
| **AQ-81** | 45 | New | Same |
| **AQ-82** | 48 | None. PTO condition 48 is not relevant to air quality compliance operations. | Staff proposes to add PTO condition 48 as **AQ-82** to improve understanding and enforceability for the power station Units No. 1 and No. 2. |

| Energy Commission COCs Numbering | District Condition Numbering | Facility Owner Proposed Modifications | Staff Proposed Modifications |
|---|---|---|---|
| **AQ-83** | 49 | New | Same |

Energy Commission staff recommends making the following changes to the approved conditions of certification, as shown in strikeout and underline bold text (all conditions are shown for completeness):

**AQ-SC1** The project owner shall fund all expenses for an on-site Air Quality Construction Mitigation Manager (AQCMM) who shall be responsible for maintaining compliance with conditions **AQ-SC2** through **AQ-SC4** for the entire project site and linear facility construction. The on-site AQCMM shall have full access to areas of construction of the project site and linear facilities, and shall have the authority to appeal to the CPM to have the CPM stop any or all construction activities as warranted by applicable construction mitigation conditions. The on-site AQCMM shall have a current certification by the California Air Resources Board for Visible Emission Evaluation (U.S. EPA Method 9) prior to the commencement of ground disturbance. The on-site AQCMM shall not be terminated without written consent of CPM.

**Verification:** At least 60 days prior to the start of ground disturbance, the project owner shall submit to the CPM, for approval, the name, current ~~C~~ARB Visible Emission Evaluation certificate, and contact information for the on-site AQCMM.

**AQ-SC2** The project owner shall provide a construction mitigation plan, for approval, which shows the steps that will be taken, and reporting requirements, to ensure compliance with conditions **AQ-SC3** and **AQ-SC4**.

**Verification:** At least 60 days prior to start any ground disturbance, the project owner shall submit to the CPM, for approval, the construction mitigation plan.

**AQ-SC3** The on-site AQCMM shall submit to the CPM, in the Monthly Compliance Report (MCR), a construction mitigation report that demonstrates compliance with the following mitigation measures:

a) All unpaved roads and disturbed areas in the project and linear construction sites shall be watered until sufficiently wet for every four hours of construction activities. The frequency of watering can be reduced or eliminated during periods of precipitation.
b) No vehicle shall exceed 15 miles per hour within the construction site.
c) The construction site entrances shall be posted with visible speed limit signs.
d) All construction equipment vehicle tires shall be washed or cleaned free of dirt prior to entering paved roadways.
e) Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station.

f) All entrances to the construction site shall be treated with dust soil stabilization compounds.
g) Construction vehicles must enter the construction site through the treated entrance roadways.
h) Construction areas adjacent to any paved roadway shall be provided with sandbags to prevent run-off to the roadway.
i) All paved roads within the construction site shall be swept twice daily when construction activity occurs.
j) At least the first 500 feet of any public roadway exiting from the construction site shall be swept twice daily when construction activity occurs.
k) All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or be treated with appropriate dust suppressant compounds.
l) All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.
m) Where appropriate, construction areas that may be disturbed shall be equipped with windbreaks at the windward sides prior to any ground disturbance. The windbreaks shall remain in place until the soil is stabilized or permanently covered with vegetation.
n) Any construction activities that can cause fugitive dust shall cease when the wind exceeds 25 miles per hour.
o) All diesel-fueled engines used in the construction of the facility shall be fueled only with ultra-low sulfur diesel, which contains no more than 15 ppm sulfur.
p) All large construction diesel engines that have a rating of 100 hp or more, shall meet, at a minimum, the 1996 ~~C~~ARB or U.S. EPA certified standards for off-road equipment.
q) All large construction diesel engines, which have a rating of 100 hp or more, shall be equipped with catalyzed diesel particulate filters (soot filters), unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types.
r) All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM that shows the engine meets the conditions **AQ-SC3**(p) and **AQ-SC3**(q) above.

**Verification:** In the MCR, the project owner shall provide the CPM a copy of the construction mitigation report and any diesel fuel purchase records, which clearly demonstrate compliance with condition **AQ-SC3**.

**AQ-SC4** No construction activities are allowed to cause visible emissions at or beyond the project site fenced property boundary. No construction activities are allowed to cause visible plumes that exceed 20 percent opacity at any location on the construction site. No construction activities are allowed to

cause any visible plume in excess of 200 feet beyond the centerline of the construction of linear facilities.

**Verification:** The on-site AQCMM shall conduct a visible emission evaluation at the construction site fence line, or 200 feet from the center of construction activities at the linear facility, each time he/she sees excessive fugitive dust from the construction or linear facility site. The records of the visible emission evaluations shall be maintained at the construction site and shall be provided to the CPM in the MCR.

**AQ-SC5 [Deleted (date of adoption)]**

~~The project owner shall surrender the emission offset credits listed in the table below or a modified list, as allowed by this condition, at the time that surrender is required by Air Quality Condition **AQ-49**. If additional ERCs are submitted consistent with Air Quality Conditions **AQ-17** and **AQ–49**, the project owner shall submit an updated table including the additional ERCs to the CPM. The project owner shall request CPM approval for any substitutions, modifications, or additions of credits listed.~~

~~The CPM, in consultation with the District, may approve any such change to the ERC list provided that the project remains in compliance with all applicable laws, ordinances, regulations, and standards, the requested change(s) clearly will not cause the project to result in a significant environmental impact, and each requested change is consistent with applicable federal and state laws and regulations. If provided to increase maximum allowable emissions from 104.3 tons per year of NOx emissions to 124.4 tons per year pursuant to Condition **AQ-49**, Class A ERCs issued by the District and meeting the standards of District Rule 26.1 are presumed to satisfy these criteria. If other than Class A ERCs are proposed, then the U.S. EPA shall also be consulted.~~

| ~~District ERC Number~~ | ~~NOx-Equivalent (tpy)~~ |
|---|---|
| ~~ERC 000111-01~~ | ~~17.5~~ |
| ~~ERC 000111-02~~ | ~~0.15 (from 0.3 tpy VOC)~~ |
| ~~ERC 010228-01~~ | ~~7.6 (from 15.2 tpy VOC)~~ |
| ~~ERC 921291-01~~ | ~~20.8~~ |
| ~~ERC 921291-02~~ | ~~0.5 (from 1.0 tpy of VOC)~~ |
| ~~ERC 976993-01~~ | ~~10.5 (from 21.0 tpy of VOC)~~ |
| ~~ERC 020130-02~~ | ~~3.6~~ |
| ~~No ERC number, diesel engine replacement~~ | ~~26.0~~ |
| ~~No ERC number, boiler replacement~~ | ~~38.5~~ |

**Verification:** ~~The project owner shall submit to the CPM a list of ERCs to be surrendered to the District at least 60 days prior to initial startup. When additional ERCs are submitted pursuant to Air Quality Condition **AQ-49,** the project owner shall submit the list of additional ERCs at least 60 days prior to the use of these additional ERCs. If~~

~~the CPM, in consultation with the District and, in the event other than a Class A ERC is proposed, with the U.S.EPA, approves a substitution or modification, the CPM shall file a statement of the approval with the commission docket and mail a copy of the statement to every person on the post-certification mailing list. The CPM shall maintain an updated list of approved ERCs for the project.~~

**AQ-SC6** The project owner shall submit to the CPM for review ~~and approval~~ any **significant** modification**s approved by the** ~~proposed by either the project owner or~~ issuing agency to any project air permit.

**Verification:** The project owner shall submit **any significant approved** ~~the proposed~~ air permit modification**s** to the CPM within **the most current Quarterly Operational Report (AQ-SC7)** ~~five working days of either its submittal by the project owner to an agency, or its receipt from an agency~~. The project owner shall submit all modified air permits to the CPM within **most current Quarterly Operational Report (AQ-SC7)** ~~15 days of their receipt~~.

**AQ-SC7** The project owner shall submit Quarterly Operational Reports to the CPM and District that include operational and emissions information as necessary to demonstrate compliance with Conditions **AQ-SC8**, **AQ-SC9**, and **AQ-1** through **AQ-83~~55~~**, as applicable. The Quarterly Operational Report will specifically note or highlight instances of noncompliance and the corrective measures taken to correct these incidents. **The CEMs shall be maintained and operated, and reports submitted, in accordance with the requirements of Rule 19.2 sections (d), (e), (f)(2), (f)(3), (f)(4) and (f)(5) and CEMs protocol approved by the District.**

**Verification:** The project owner shall submit the Quarterly Operational Reports to the CPM and the District no later than 30 days following the end of each calendar quarter **as required by Rule 19.2 section (d)**.

**AQ-SC8** The project owner shall provide a flow meter to determine the daily cooling tower circulating water flow and shall monitor and record the daily flow.

**Verification:** The project owner shall submit to the CPM the daily cooling tower recirculating water flow data in the Quarterly Operational Reports (**AQ-SC7**).

**AQ-SC9** The cooling tower annual PM10 emissions shall be limited to 5.7 ton/year. The project owner shall estimate annual PM10 emissions from the cooling tower using the water quality testing data and recirculating water flow data collected on a quarterly basis (**AQ-SC8** and **AQ-35**). The water quality testing data shall show the total dissolved solids, the pH, and the ammonia concentration of the cooling water.

The cooling tower shall be equipped with drift eliminators with an efficiency of 0.0005 percent.

**Verification:** The project owner shall submit to the CPM annual cooling tower PM**10**~~10~~ emission estimates in the Quarterly Operational Reports (**AQ-SC7**).

**AQ-SC10 [Deleted (date of adoption)]**

~~The project owner shall provide $1.86 million, for programs of the San Diego County Air Pollution Control District to mitigate potential PM10 and PM10 precursor impacts in the region around the Palomar Energy Project. The payment shall be provided to the District, which will allocate the funds to programs expected to provide reductions in the specified area. The $1.86 million payment includes an administration fee of no greater than ten percent to the District for costs to advertise, evaluate, contract and administer diesel source emission reduction projects.~~

~~The project owner shall provide the $1.86 million in two installments. The first installment will be in the amount of $1.57 million for projects and District costs, and will be submitted to the District no later than the date of delivery of the first combustion turbine to the project site. The project owner shall provide the remaining $290,000 to the District no later than the date of surrendering the additional Emission Reduction Credits described in AQ-49.~~

~~The project owner shall demonstrate that a good faith effort has been made to develop an agreement with the District to include the following:~~

~~1) the District shall provide the project owner with a quarterly report that includes a description of the funded mitigation or contracted projects, the cost of each project, and estimated cost-effectiveness of the emission reduction projects;~~

~~2) for up to two years from the date of a payment by the project owner, the District will give first right of refusal to diesel source mitigation projects in the Escondido area;~~

~~3) the District shall actively pursue mitigation projects by advertising through its Carl Moyer Program, Lower Emission School Bus Program, and Vehicle Registration Fund Program, as well as working directly with projects that may be developed by the project owner or in the course of normal district business;~~

~~4) if, after two years from the date of payment, the District has been unable to identify sufficient projects to expend all fees paid, the project owner shall assist in identifying additional diesel source mitigation projects throughout the North San Diego County area; and~~

~~5) the District shall restrict use of fees paid to diesel source reduction projects in the North San Diego County area, only.~~

**Verification:** ~~Copies of each payment transmitted and a record of the agreement with the District shall be provided to the CPM within 20 days after delivery of the each payment to the District. The project owner shall submit to the CPM, in a Quarterly~~

~~Report, a summary of mitigation projects, costs, and cost effectiveness of emission reductions, as provided by the District.~~

**AQ-SC11** ~~The emissions of ammonia (ammonia slip) from each gas turbine exhaust stack following the SCR controls shall not exceed 5.0 parts per million by volume on a dry basis (ppmvd) corrected to 15 percent oxygen. This emission limitation shall apply during "on-going" operations, except during transient hours. During transient hours, a limitation of 10.0 ppmvd corrected to 15 percent oxygen shall apply on a three-hour average calculated as the average of the transient hour, the clock hour immediately prior to and the clock hour immediately following the transient hour.~~ **When the unit is operating, the ammonia concentration (ammonia slip) measured in the exhaust stack, shall not exceed 5.0 ppmvd corrected to 15 percent oxygen, except during periods of startup, low load, or tuning.**

**Verification:** The project owner shall submit to the District and the CPM ~~turbine initial source test data and~~ annual source test data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-SC7**). ~~"On-going" operations are defined in **AQ-30**, and a "transient hour" is defined in **AQ-31**.~~

**AQ-SC12 [Deleted (date of adoption)]**

~~Until the California Global Warming Solutions Act of 2006 (AB32) is implemented, the project owner shall either participate in a greenhouse gas (GHG) registry approved by the CPM, or report on an annual basis to the CPM the quantity of greenhouse gases emitted as a result of facility electricity production.~~

~~The project owner shall maintain a record of fuel types and carbon content used on-site for the purpose of power production. These fuels shall include but are not limited to each fuel type burned: (1) all fuel burned in internal combustion engines; (2) fuel used in fuel gas heaters and emergency equipment; and (3) all fuels used in any capacity for the purpose of facility startup, shutdown, operation, or emission controls.~~

~~The project owner may perform annual source tests of $CO_2$ and $CH_4$ emissions from the exhaust stacks while firing the facility's primary fuel, using the following test methods or other test methods as approved by the CPM. The project owner shall produce fuel-based emission factors in units of lbs. of $CO_2$ equivalent per mmBtu of fuel burned from the annual source tests. If a secondary fuel is approved for the facility, the project owner may also perform these source tests while firing the secondary fuel.~~

| ~~Pollutant~~ | ~~Test Method~~ |
|---|---|
| ~~$CO_2$~~ | ~~EPA Method 3A~~ |

| | |
|---|---|
| ~~$CH_4$~~ | ~~EPA Method 18 (precursor organic compound (POC) measured as $CH_4$)~~ |

~~Or, as an alternative to performing annual source tests, the project owner may use the Intergovernmental Panel on Climate Change (IPCC) Methodologies for Estimating Greenhouse Gas Emissions (MEGGE). If MEGGE is chosen, the project owner shall calculate the $CO_2$, $CH_4$ and $N_2O$ emissions using the appropriate fuel-based carbon content coefficient (for $CO_2$) and the appropriate fuel-based emission factors (for $CH_4$ and $N_2O$).~~

~~The project owner shall convert the $N_2O$ and $CH_4$ emissions into $CO_2$ equivalent emissions using the current IPCC Global Warming Potentials (GWP). The project owner shall maintain a record of all $SF_6$ that is used for replenishing on-site high voltage equipment. At the end of each reporting period, the project owner shall total the mass of $SF_6$ used and convert that to a $CO_2$ equivalent emission using the IPCC GWP for $SF_6$. The project owner shall maintain a record of all perflorocarbons (PFC) and hydroflorocarbons (HFC) used for replenishing on-site refrigeration and chillers directly related to electricity production. At the end of each reporting period, the project owner shall total the mass of PFCs and HFCs used and convert that mass to a $CO_2$ equivalent emission using the IPCC GWP.~~

~~On an annual basis, the project owner shall report the $CO_2$ and $CO_2$ equivalent emissions from the described emissions of $CO_2$, $N_2O$, $CH_4$, $SF_6$, PFCs, and HFCs.~~

~~**Verification**: The project's annual greenhouse gas emissions shall be reported, as a $CO_2$ equivalent, by the project owner to a climate action registry approved by the CPM, or to the CPM as part of the fourth quarterly operation report (**AQ-SC7**) or the annual air quality report, until such time that GHG reporting requirements are adopted and in force for the project as part of the California Global Warming Solutions Act of 2006.~~

**AQ-SC13** Testing and maintenance of the emergency engine shall be performed between the hours of 10:00 am and 3:00 pm.

**Verification:** The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission. The project owner shall provide records of dates and times of performed testing and maintenance. See Verification for condition **AQ-56** for reporting requirements.

**Conditions of Certification AQ-1 through AQ-55 and AQ-67 through AQ-83 apply to each of the Power Station Units No. 1 and No. 2**

**AQ-1 [Replaced by AQ-52]**

~~The project owner shall operate the project in accordance with all data and specifications submitted with the application under which this license is issued unless otherwise noted below.~~

~~**Verification:** The project owner shall either certify compliance with this condition or provide documentation regarding the upsets or operation compliance violations that occurred as part of the Quarterly Operational Report (**AQ-SC7**). The project owner shall make the site available for inspection by representatives of the District, CARB and the Energy Commission.~~

**AQ-2** The project equipment shall be properly maintained and kept in good operating condition at all times.

**Verification:** The project owner shall certify that the equipment has been maintained and kept in good operating as part of the Quarterly Operational Report (**AQ-SC7**). The project owner shall make the site available for inspection by representatives of the District, ~~C~~ARB, and the Energy Commission.

**AQ-3** ~~The project owner shall provide a~~**A**ccess, facilities, utilities~~,~~ and any necessary safety equipment for source testing and inspection **shall be provided** upon request of the Air Pollution Control District.

**Verification:** The project owner shall make the site available for inspection by representatives of the District, ~~C~~ARB, and the Energy Commission. ~~The project owner shall provide a~~**A**ccess, facilities, utilities and **any** necessary safety equipment for source testing ~~available~~ **and inspection shall be provided** upon request to representatives of the District.

**AQ-4** **[Deleted (date of adoption)]**

~~The project owner shall obtain any necessary District permits and Energy Commission approval for all ancillary combustion equipment including emergency engines, prior to on-site delivery of the equipment.~~

~~**Verification:** The project owner shall submit to the District and the CPM any necessary permit applications for ancillary combustion equipment prior to the onsite delivery of the equipment.~~

**AQ-5** **[Deleted (date of adoption)]**

~~The exhaust stacks for each turbine power station shall be at least 110 feet in height above site base elevation.~~

~~**Verification:** The project owner shall make the site available for inspection of the exhaust stacks by representatives of the District, CARB, and the Energy Commission.~~

**AQ-6** **[Deleted (date of adoption)]**

~~The project owner shall submit to the District the final selection, design parameters and details of the selective catalytic reduction (SCR) and oxidation catalyst emission control systems. Such information may be~~

~~submitted to the District as trade secret and confidential pursuant to District Rules 175 and 176.~~

**Verification:** ~~The project owner shall submit SCR and oxidation catalyst design details to the District and the CPM at least 90 days prior to commencement of construction.~~

**AQ-7** The exhaust stacks for each turbine shall be equipped with source test ports and platforms to allow for the measurement and collection of stack gas samples consistent with all approved test protocols. The ports and platforms shall be constructed in accordance with District Method 3A, Figure 2, and approved by the District.

**Verification:** ~~Prior to construction of the turbine stacks the project owner shall provide to the District and CPM for approval detailed plan drawings of the turbine stacks that show the sampling ports and demonstrate compliance with the requirements of this condition.~~ The project owner shall make the site available for inspection of the turbine stacks by representatives of the District, ~~C~~ARB, and the Energy Commission.

**AQ-8** ~~This equipment shall be fired on natural gas only. The sulfur content of the natural gas used shall not exceed 0.75 grains per 100 standard cubic feet of natural gas. The project owner shall maintain quarterly records of fuel content (grains of sulfur compounds per 100 scf of natural gas) and higher heating value (BTU/scf) and shall make these records available to District personnel upon request. Specifications, including sulfur content and higher heating value, of all natural gas, other than Public Utility Commission-regulated natural gas, shall be submitted to the District for written approval prior to use.~~ **The unit shall be fired on Public Utility Commission (PUC) quality natural gas only. The project owner shall maintain quarterly records of sulfur content (grains/100 dscf) and higher and lower heating values (Btu/dscf) of the natural gas and provide such records to the District personnel upon request.**

**Verification:** ~~The project owner shall compile continuous fuel sulfur content and higher heating value monitoring data from the gas supplier, or if such data is not available, the project owner shall test the sulfur content and higher heating value of the natural gas fuel monthly using recognized ASTM method(s). The fuel sulfur content data shall be submitted to the CPM in the Quarterly Operational Report (**~~**AQ-SC7**~~**).~~ **The project owner shall make the fuel sulfur content data available for inspection by representatives of the District, ARB, and the Energy Commission.**

**AQ-9** ~~A Continuous Emission Monitoring System (CEMS) shall be installed and calibrated to measure and record the concentration of NOx, CO, and $O_2$ in the exhaust gas on a dry basis (ppmvd). Upon initial startup, a properly installed and calibrated CEMS shall thereafter be in full operation at all times when the turbine is in operation. If needed prior to installation and approval of the permanent CEMS, a portable CEMS which has been properly calibrated, may be used to continuously measure and record these parameters. Within 90~~

~~days after the commencement of commercial operations (as defined by 40 CFR 72.2), the CEMS shall be certified.~~

~~Protocol: Initial startup shall be defined as the time when fuel is first fired in the equipment and shall not include the purging of foreign material from inside of the steam paths and from the outside of the tubes also known as steam blow/boilout. Commercial operation is defined for this condition as the instance when power is sold to the grid.~~

**Continuous emission monitoring system (CEMS) shall be installed and properly maintained and calibrated to measure, calculate and record the following, in accordance with the District approved CEMS protocol:**

**A. Hourly average concentration of Oxides of Nitrogen (NOx) corrected to 15 percent oxygen, in parts per million (ppmvd);**

**B. Concentration of Carbon Monoxide (CO) corrected to 15 percent oxygen, in parts per million (ppmvd);**

**C. Percent oxygen ($O_2$) in the exhaust gas (%) for each clock hour period;**

**D. Average concentration of Oxides of Nitrogen (NOx) for each rolling 3-hour period, in parts per million (ppmv) corrected to 15 percent oxygen;**

**E. Hourly and Monthly mass emissions of Oxides of Nitrogen (NOx), in pounds;**

**F. Rolling 12 month mass emissions of Oxides of Nitrogen (NOx), in tons;**

**G. Hourly and monthly mass emissions of Carbon Monoxide (CO), in pounds;**

**H. Annual mass emissions of Carbon Monoxide (CO), in tons.**

**I. Natural gas flow rate to combustion turbine in scf/hr.**

**J. Natural gas flow rate to duct burner in scf/hr.**

**K. Concentration of Volatile Organic Compounds (VOC) corrected to 15 percent oxygen, in parts per million (ppmvd) for each rolling 3-hour period, based upon the approved VOC/CO surrogate relationship.**

**L. Hourly and monthly mass emissions of VOC in pounds**

**M. Rolling 12-month mass emissions of VOC in tons.**

**The CEMS shall be in operation in accordance with the District approved CEMS monitoring protocol at all times when the combustion 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.**

**Verification:** The project owner shall provide the information necessary for compliance with this condition in the permanent CEMS protocol required under Condition **AQ-13**.

**AQ-10** **[Deleted (date of adoption)]**

~~At least 60 days prior to initial startup of the gas turbines, the project owner shall submit a protocol to the District, for written approval, that shows how the permanent CEMS will be able to meet all District monitoring requirements and measure NOx emissions at a level of 2.0 ppmv.~~

~~**Verification:** The project owner shall provide the information necessary for compliance with this condition in the permanent CEMS protocol required under Condition **AQ-13**.~~

**AQ-11** **[Deleted (date of adoption)]**

~~The project owner shall submit a protocol to the District for approval which shall specify a method of determining the CO/VOC surrogate relationship that shall be used to demonstrate compliance with all VOC emission limits.~~

~~**Verification:** The project owner shall submit the CO/VOC surrogate determination protocol to the CPM and District at least 60 days prior to initial startup of the turbine. This protocol can be provided as part of the Source Testing Protocol required by condition **AQ-43**.~~

**AQ-12** ~~Prior to initial startup, each turbine shall be equipped with continuous monitors to measure or calculate and record the following operational characteristics of each unit:~~

- ~~natural gas flow rate (scfh);~~
- ~~natural gas flow rate to duct burners (scfh);~~
- ~~heat input rate (MMBtu /hr);~~
- ~~exhaust gas flow rate (dscfm);~~
- ~~exhaust gas temperature (ºF); and~~
- ~~power output (gross MW).~~

~~Protocol: The monitors shall be installed, calibrated, and maintained in accordance with an approved protocol. This protocol, which shall include calculation methodology, shall be submitted to the District for written approval. The monitors shall be in full operation at all times when the turbine is in operation.~~

**Fuel flowmeters with an accuracy of +/- 2 percent shall be maintained to measure the volumetric flow rate corrected for temperature and pressure. Correction factors and constants shall be maintained on site and made available to the District upon request. The fuel flowmeters shall meet the applicable quality assurance requirements of 40 CFR Part 75, Appendix D, and Section 2.1.6.**

**Verification:** ~~At least 60 days prior to the initial startup of the gas turbines, the project owner shall submit a turbine operation monitoring protocol to the District for written~~

~~approval. The project owner shall provide the CPM documentation of the District's written approval of this protocol, within 15 days of its receipt.~~ The project owner shall make the ~~site~~ **meter information** available for inspection ~~of the turbine operation monitors and monitor maintenance records~~ by representatives of the District, ~~C~~ARB, and the Energy Commission.

**AQ-13** ~~All CEMS shall be certified, calibrated, maintained, and operated for the monitoring of NOx and CO~~ **The Oxides of Nitrogen (NOx) and Oxygen ($O_2$) CEMs shall be certified and maintained** in accordance with ~~the~~ applicable **federal** regulations including the requirements of Sections 75.10 and 75.12 of Title 40, Code of Federal Regulations Part 75 (40 CFR 75), the performance specifications of Appendix A of 40 CFR 75, the quality assurance procedures of Appendix B of 40 CFR 75, and ~~a~~ **the** CEMS protocol approved by the District. ~~The project owner shall submit a CEMS operating protocol to the District for written approval.~~ **The Carbon Monoxide (CO) CEMs shall be certified and maintained in accordance with 40 CFR 60, Appendices B and F, unless otherwise specified in this permit.**

**Verification:** ~~At least 60 days prior to the operation of the permanent CEMS, the project owner shall submit a CEMS operating protocol to the District for written approval. The project owner shall provide the CPM documentation of the District's written approval of the CEMS operating protocol, within 15 days of its receipt.~~ The project owner shall make the site available for inspection of the CEMS and CEMS maintenance records by representatives of the District, ~~C~~ARB, and the Energy Commission.

**AQ-14** The District shall be notified ~~in writing~~ **at least two weeks** prior to any ~~proposed~~ changes ~~to be~~ made in ~~any~~ ~~Continuous Emission Monitor (~~CEM**S**~~)~~ software ~~which~~ **that** affect the ~~value of data displayed on the CEM monitors and recorded for reporting with respect to the parameters measured by their respective sensing devices~~ **measurement, calculation or correction of data displayed and/or recorded by the CEMS**.

**Verification:** The project owner shall provide the District and the CPM copies of any proposed CEMS software change correspondence at least two weeks prior to any proposed changes.

**AQ-15** A monitoring plan in conformance with 40 CFR 75.53 shall be submitted to U.S. EPA Region 9 and the District at least ~~45~~ **30** days prior to the Relative Accuracy Test Audit test, as required in 40 CFR 75.62.

**Verification:** The project owner shall notify the CPM of the submittal of the monitoring plan required under this condition within 15 days of its submittal to the District. The project owner shall provide the CPM documentation of the District approval of the monitoring plan required under this condition within 15 days of its receipt.

**AQ-16** ~~No later than 90 days after each unit commences commercial operation (defined for this condition as the instance when power is sold to the grid), a~~ **A** Relative Accuracy Test Audit (RATA) and **all** other required certification tests shall be performed and completed on the CEMS in accordance with **applicable provisions of** 40 CFR Part 75 Appendix A **and B performance** ~~S~~**s**pecifications ~~and Test Procedures~~. At least ~~60~~ **30** days prior to the test date, the project owner shall submit a test protocol to the District for ~~written~~ approval. Additionally, the District shall be notified a minimum of ~~45~~ **21** days prior to the test so that observers may be present. Within ~~30~~ **45** days of completion of this test, a written test report shall be submitted to the District for approval.

**Verification:** The project owner shall notify the CPM of the submittal of the RATA test protocol and the RATA test report within 15 days of its submittal to the District. The project owner shall notify the CPM and the District of the RATA test date at least ~~45~~ **21** days prior to the conducting the RATA test. The project owner shall provide the CPM documentation of the District approval of the RATA test protocol and RATA test report within 15 days of its receipt.

**AQ-17** ~~The t~~**T**otal aggregate emissions of oxides of nitrogen (NOx), calculated as nitrogen dioxide, from all **stationary** emission units at this stationary source**, except emissions or emission units excluded from the calculation of aggregate potential to emit as specified in Rule 20.1(d)(1),** shall not exceed 104.3 tons ~~for~~ **in** each rolling 12-calendar month period. ~~Upon surrender of sufficient emission offsets in compliance with District Rules 20.1 and 20.3, the total aggregate NOx limit shall increase up to 124.4 tons for each rolling 12-calendar month period. These additional emission offsets must have been publicly noticed through the emission reduction credit banking process or District notification specific for this project, and in a California Energy Commission notification specific for this project.~~ **The total aggregate emissions of NOx shall include emissions during all times that the equipment is operating, including but not limited to, emissions during periods of startup, shutdown, low load operation and tuning.**

~~Aggregate emissions shall begin accruing at the initial startup of either turbine. Compliance with the aggregate NOx limit shall be verified using the CEMS on each gas turbine as well as U.S. EPA- or CARB-certified NOx emission factors, testing results, or other representative emissions information for all other combustion equipment.~~

**Verification:** The project owner shall submit to the CPM and the District turbine emissions CEMS data and calculations demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-SC7**).

**AQ-18** ~~The t~~**T**otal aggregate emissions of Volatile Organic Compounds (VOC) from all **stationary** emission units at this stationary source**, except emissions or emission units excluded from the calculation of aggregate potential to**

**emit as specified in Rule 20.1(d)(1),** shall not exceed 50 tons ~~for~~ **in** each rolling 12-calendar month period. ~~The VOC emissions shall begin accruing at the initial startup of either turbine.~~ **The total aggregate emissions of VOC shall include emissions during all times that the equipment is operating, including but not limited to, emissions during periods of startup, shutdown, low load operation and tuning.** ~~Compliance with this limit shall be based on District-approved source testing and the District-approved CO/VOC surrogate relationship.~~

**Verification:** The project owner shall submit to the CPM and the District turbine emissions CEMS data and calculations demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-SC7**).

**AQ-19** The project owner shall maintain records, **on** at least ~~on~~ a calendar ~~monthly~~ **quarterly** basis, of total aggregate mass emissions of NOx and VOC~~,~~ in tons ~~per rolling 12-calendar month period,~~ from all **stationary emission units at this stationary source,** ~~equipment, excluding permit exempt equipment,~~ **except emissions or emission units excluded from the calculation of aggregate potential to emit as specified in Rule 20.1(d)(1),** ~~at this stationary source for the previous~~ **for each rolling** 12-**calendar** month period. These records shall be ~~maintained on site for a minimum of five years and~~ made available ~~to the District upon request.~~ **for inspection within 30 calendar days after the end of each calendar quarter.**

**Verification:** The project owner shall make the site available for inspection of the $NO_x$ and VOC emissions records by representatives of the District, ~~C~~ARB, and the Energy Commission.

**AQ-20** ~~To ensure compliance with District Rule 69.3.1 and except during any period of time for which a variance from Rule 69.3.1 has been granted by the Air Pollution Control District Hearing Board, when operating with post-combustion air pollution control equipment, emissions of oxides of nitrogen (NOx), calculated as nitrogen dioxide, from each turbine shall not exceed 11.8 parts per million by volume on a dry basis (ppmvd) calculated over each one-hour averaging period and corrected to 15 percent oxygen, excluding shutdowns, and extended and regular startups.~~ **When the unit is operating, the concentration of Oxides of Nitrogen (NOx), calculated as nitrogen dioxide ($NO_2$) and measured in the exhaust stack, shall not exceed 11.8 ppmvd corrected to 15 percent oxygen, averaged over each clock hour period, except for exempt periods of operation during startup, combined-cycle gas turbine extended startup, shutdowns, and low load operation, as defined in Rule 69.3.1. All CEMS calculations and averages shall be performed in accordance with the CEMS protocol approved by the District.**

**Verification:** The project owner shall submit to the CPM and the District turbine CEMS emissions data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-SC7**).

**AQ-21** ~~During shutdowns, and extended and regular startups, when operating with post-combustion air pollution control equipment, the total emissions from both turbines combined shall not exceed 200 pounds per hour of oxides of nitrogen (NOx), calculated as nitrogen dioxide and measured over each clock hour period. Additionally, when operating with post-combustion air pollution control equipment, the total emissions when only one turbine is in operation shall not exceed 100 pounds per hour of NOx, calculated as nitrogen dioxide and measured over each clock hour period. (To comply with District Rule 20.3 (d)(2)(I)).~~ **Total combined NOx emissions from both units shall not exceed 400 pounds per hour, calculated as Nitrogen Dioxide and measured over each 1-clock-hour period. These emission limits shall apply during all times during which one or both units are operating, including, but not limited to, emissions during periods of startup, shutdown, low load operation and tuning. In addition, Unit No. 1 shall not begin operating while Unit No. 2 is already operating in a startup period nor shall Unit No. 2 begin operating while Unit No. 1 is already operating in a startup period unless the unit already operating in a startup period meets all of the following in the clock-minute immediately preceding the clock-minute that the other unit begins operating:**

**A) has been operating with a gross electrical output from the combustion turbine of 64 MW or more during the preceding 10 consecutive-clock-minute period;**

**B) the concentration of NOx, calculated as $NO_2$ and measured in the exhaust stack, does not exceed 2.0 ppmvd corrected to 15 percent oxygen; and**

**C) the concentration of CO measured in the exhaust stack does not exceed 4.0 ppmvd corrected to 15 percent oxygen. (Rule 20.3(d)(2)(i))**

**Verification:** The project owner shall submit to the CPM and the District turbine CEMS ~~startup and shutdown~~ emissions data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-SC7**).

**AQ-22** ~~During extended startup and shutdown, when operating with post-combustion air pollution control equipment, the total emissions from both turbines combined shall not exceed 3,384 pounds per hour of carbon monoxide (CO), averaged over a one-hour averaging period. Additionally, when operating with post-combustion air pollution control equipment, the total emissions when one turbine is in operation shall not exceed 1,692 pounds per hour of CO over a one-hour averaging period. (To comply with District Rule 20.3 (d)(2)(i)).~~ **Total combined CO emissions from both units shall not exceed 2,000 pounds**

**per hour measured over each 1-clock-hour period. This emission limit shall apply during all times that one or both units are operating, including, but not limited to emissions during periods of startup, shutdown, low load operation and tuning.**

**Verification:** The project owner shall submit to the CPM and the District turbine CEMS ~~startup and shutdown~~ emissions data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-SC7**).

~~**Commissioning Period Conditions**~~

**AQ-23** **[Deleted (date of adoption)]**

~~Beginning at initial startup of each turbine, a "Commissioning Period" for each turbine shall commence. This Commissioning Period shall end 120 days after initial startup or immediately after written acceptance of clear custody and control of the equipment is turned over to the project owner, or after not more than 300 hours of gas turbine operation whichever comes first. During the Commissioning Period, only the emission limits specified in Conditions Nos. **AQ-17, 18, 19, 20, 21, 24, 25, 26** and **27** shall apply.~~

~~**Verification:** The project owner shall submit to the CPM and the District turbine operating data demonstrating compliance with this condition as part of the Commissioning Status Report (**AQ-28**).~~

**AQ-24** **[Replaced by AQ-21]**

~~During the Commissioning Period when operating without any post-combustion air pollution control equipment, the total emissions from both turbines combined shall not exceed 900 pounds per hour of oxides of nitrogen (NOx), calculated as nitrogen dioxide and measured over each clock hour period. Additionally, when operating without any post-combustion air pollution control equipment, the total emissions when only one turbine is in operation shall not exceed 450 pounds per hour of NOx, calculated as nitrogen dioxide and measured over each clock hour period. These emission limits shall apply during commissioning, shutdowns, transients, and extended and regular startups to comply with District Rule 20.3(d)(2)(i).~~

~~**Verification:** The project owner shall submit to the CPM and the District turbine CEMS emissions data demonstrating compliance with this condition as part of the Commissioning Status Report (**AQ-28**). A "transient hour" is defined in **AQ-31**.~~

**AQ-25** ~~Within 120 days or 300 hours of gas turbine operation, whichever comes first, after initial startup of each turbine, the project owner shall install post-combustion air pollution control equipment to minimize emissions from this equipment. Once installed, the post-combustion air pollution control equipment shall be maintained in good condition and, with the exception of periods during startup and shutdown, shall be in full operation at all times when the turbine is in stable operation.~~ **Except during periods when the Ammonia injection system is being tuned or one or more Ammonia**

**injection systems is in manual control (for compliance with applicable permits), the automatic Ammonia injection system serving the SCR shall be in operation in accordance with manufacturer's specifications at all times when Ammonia is being injected into the SCR. Manufacturer specifications shall be maintained on site and made available to District personnel upon request.**

**Verification:** ~~The project owner shall provide the CPM and the District operating data showing compliance with this condition as part of the Commissioning Status Report (**AQ-28**).~~ The project owner shall make the ~~site~~ **meter information** available for inspection ~~of the post-combustion air pollution control equipment and the CEMS records~~ by representatives of the District, ~~C~~ARB, and the Energy Commission.

**AQ-26** **[Replaced by AQ-22]**

~~During the Commissioning Period when operating without any post-combustion air pollution control equipment, the total emissions from both turbines combined shall not exceed 4,000 pounds per hour of carbon monoxide (CO), measured over each clock hour period. Additionally, when operating without any post-combustion air pollution control equipment, the total emissions when one turbine is in operation shall not exceed 2,000 pounds per hour of CO measured over each clock hour period. These emission limits shall apply during commissioning, shutdowns, transients, and extended and regular startups to comply with District Rule 20.3(d)(2)(i).~~

**Verification:** ~~The project owner shall submit to the CPM and the District turbine CEMS emissions data demonstrating compliance with this condition as part of the Commissioning Status Report (**AQ-28**). A "transient hour" is defined in **AQ-31**.~~

**AQ-27** **[Replaced by AQ-20]**

~~To ensure compliance with District Rule 69.3.1 and except during any period of time for which a variance from Rule 69.3.1 has been granted by the Air Pollution District Hearing Board, when operating without any post combustion air pollution control equipment, the emissions of oxides of nitrogen (NOx), calculated as nitrogen dioxide, from each turbine shall not exceed 19.6 parts per million by volume on a dry basis (ppmvd) calculated over each one-hour averaging period and corrected to 15 percent oxygen, excluding shutdowns, regular and extended startups.~~

**Verification:** ~~The project owner shall submit to the CPM and the District turbine CEMS emissions data demonstrating compliance with this condition as part of the Commissioning Status Report (**AQ-28**).~~

**AQ-28** **[Deleted (date of adoption)]**

~~After the end of the Commissioning Period for each turbine, the project owner shall submit a written progress report to the District. This report shall include, at minimum, the date the Commissioning period ended, the periods of startup, the emission of NOx and CO during startup, and the emissions of NOx and~~

~~CO during steady state operation with and without duct burner firing. NOx and CO emissions shall be reported in both ppmv at 15 percent $O_2$ and lbs/hr. This report shall also detail any turbine or emission control equipment malfunction, upset, repairs, maintenance, modifications, or replacements affecting emissions of air contaminants that occurred during the ommissioning Period.~~

**~~Verification:~~** ~~The project owner shall submit to the District and the CPM, within 30 days after the end of the Commissioning Period for each turbine, a Commissioning Status Report that demonstrates compliance with this condition and the emissions limits and other requirements of Conditions **AQ-23** through **AQ-27** and **AQ-29**.~~

**AQ-29** ~~Before operating an SCR system, continuous monitors shall be installed on each SCR system to monitor or calculate, and record the following:~~

- ~~ammonia injection rate (lbs/hr)~~
- ~~SCR catalyst temperature (°F)~~

~~Protocol: The monitors shall be installed, calibrated, and maintained in accordance with an approved protocol. This protocol, which shall include the calculation methodology, shall be submitted to the District for written approval at least 60 days prior to initial startup of the gas turbines with the SCR system. The monitors shall be in full operation at all times when the turbine is in operation.~~

**The unit shall be equipped with continuous monitors to measure, calculate and record the following operational characteristics:**

**A. Ammonia injection rate in lb/hr of solution.**
**B. Outlet temperature of SCR in degrees Fahrenheit.**
**C. Combustion turbine power output (MW).**
**D. Steam turbine reheat bowl temperature in degrees Fahrenheit.**

**The monitors shall be installed, calibrated, and maintained in accordance with a protocol approved by the District, which shall include any relevant calculation methodologies. The monitors shall be in full operation at all times when the combustion turbine is in operation. Calibration records for the continuous monitors shall be maintained on site and made available to the District upon request.**

**Verification:** ~~The project owner shall submit the proposed protocol for the SCR system continuous monitors, at least 60 days prior to initial startup of the gas turbines with the SCR system, to the District and CPM for approval. The project owner shall make the site available for inspection of the SCR system continuous monitors and monitoring records by representatives of the District, CARB, and the Energy Commission.~~ **The project owner shall submit to the CPM and the District turbine CEMS emissions data demonstrating compliance with this condition as part of the Quarterly Operational Report (AQ-SC7).**

**~~Conditions for On-Going Operations~~**

**AQ-30** **[Deleted (date of adoption)]**

~~For the purpose of the Determination of Compliance and Authority to Construct, the period described as "on-going" operations of the turbines shall commence immediately following the end of the Commissioning Period. Condition Nos. **AQ-17, 18, 19, 20, 21, 24, 26,** and **27** shall continue to apply during on-going operations.~~

~~**Verification:** The project owner shall certify that compliance with the conditions for "on-going" operations commenced immediately following the end of the Commissioning Period with the first Quarterly Operational Report (**AQ-SC7**) following the Commissioning Status Report (**AQ-28**).~~

**AQ-31** **When the unit is combusting fuel (operating), the concentration** ~~Emissions~~ of oxides of nitrogen (NOx) ~~from each gas turbine/heat recovery steam generator train~~, **calculated as nitrogen dioxide ($NO_2$) and** ~~as~~ measured ~~at~~ **in** the exhaust stack ~~exit~~, ~~calculated as nitrogen dioxide,~~ shall not exceed 2.0 parts per million by volume on a dry basis (ppmvd) corrected to 15 percent oxygen**, except during periods of startup, shutdown, low load operation, or tuning**. ~~In determining compliance with this emission limitation, t~~**T**he following averaging periods shall apply **to CEMS data**:

**A.** ~~•~~ During any clock hour when duct firing **above 19.5 MMBTU/hr heat input** is occurring (a "duct-fired hour"): three-**clock** hour average, calculated as the average of the duct fired hour, the clock hour immediately prior to and the clock hour immediately following the duct-fired hour.

**B.** ~~• During~~ **For** any clock hour ~~when~~ **during which** the **change in gross electrical output produced by the combustion turbine exceeds 50 MW per minute for one minute or longer** ~~difference between the maximum MW produced by the generator train and the minimum MW produced by the generator train exceeds + 25 MW~~ (~~a "~~transient hour~~"~~): three-**clock** hour average, calculated as the average of the transient hour, the clock hour immediately prior to and the clock hour immediately following the transient hour.

**C.** ~~•~~ All other hours: one-clock hour average.

Compliance with this limit shall be based on CEMS data for each unit averaged over each averaging period, or portions thereof, as applicable, excluding time when the equipment is operated under startup or shutdown conditions and time that the equipment is not in operation. Compliance with this limit shall also be verified through **the source test under condition AQ-16** ~~an initial source test and at least annual source testing thereafter~~.

**Verification:** The project owner shall submit to the District and the CPM turbine ~~initial source test data,~~ CEMS emissions data~~,~~ and annual source test data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-SC7**).

**AQ-32** **When the unit is operating, the concentration** ~~The emissions~~ of carbon monoxide (CO) **measured in the exhaust stack** ~~from each turbine~~ shall not exceed 4.0 parts per million by volume ~~(three-hour rolling average) on a dry basis~~ (ppmvd) corrected to 15 percent oxygen**, except during periods of startup, shutdown, low load operation, or tuning. A 3-clock hour averaging period shall apply to CEMS data.** ~~Compliance with these limits shall be based on CEMS data for each unit and averaged over each rolling three-hour period or portion there of, excluding time when the equipment is operated under startup or shutdown conditions and time that the equipment is not in operation.~~ Compliance with this limit shall also be verified through **the source test under condition AQ-16** ~~an initial emission source test and at least annual source testing thereafter~~.

**Verification:** The project owner shall submit to the District and the CPM ~~turbine initial source test data,~~ CEMS emissions data~~,~~ and annual source test data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-SC7**).

**AQ-33** **When the unit is operating, the** ~~The emissions of volatile organic compounds (~~VOC~~)~~ **concentration** ~~from each turbine~~, calculated as methane **and measured in the exhaust stack**, shall not exceed 2.0 parts per million by volume ~~(three-hour average)~~ on a dry basis (ppmvd) corrected to 15 percent oxygen**, except during periods of startup, shutdown, low load operation, or tuning**. **For purposes of determining compliance based on the CEMS,** ~~Compliance with this limit shall be based on District-approved source testing,~~ the District**-** approved **VOC/CO** ~~CO/VOC~~ surrogate relationship, ~~and on~~ **the** CO CEMS data ~~for each unit~~, **and a 3-clock hour average shall be used in accordance with the CEMS protocol.** ~~averaged over each rolling three-hour period or portion thereof, when using CO CEMS data, excluding time when the equipment is operated under startup or shutdown conditions and time the equipment is not in operation.~~ The **VOC/CO** ~~CO/VOC~~ surrogate relationship shall be verified and/or modified, if necessary, based on ~~initial emissions source tests and at least annual~~ source testing ~~thereafter~~.

**Verification:** The project owner shall submit to the District and the CPM turbine ~~initial source test data,~~ CEMS emissions data, annual source test data, and calculations demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-SC7**).

**AQ-34** Replaced by **AQ-SC11 (CEC 2003)**.

**Verification:** See **AQ-SC11.**

**AQ-35** The maximum total dissolved solids (TDS) concentration of the ~~reclaimed~~ water ~~to be~~ used in the cooling towers shall not exceed 4,000 mg/l. This concentration shall be verified through quarterly testing of the ~~reclaimed~~ water **by a certified lab using EPA approved methods**.

**Verification:** The project owner shall submit to the District and the CPM the quarterly cooling tower total dissolved solids test results demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-SC7**).

**AQ-36** When operating ~~without~~ **with** the duct burner **at or below 19.5 MMBTU/hr heat input**, ~~the~~ **mass** emissions from each **unit** ~~turbine~~ shall not exceed the following ~~emission~~ limits, except during **periods of** startup**,** ~~or~~ shutdown**, low load operation, or tuning.** ~~conditions, as determined by the CEMS and/or District approved emissions source testing. Compliance with the NOx limit shall be based on each rolling one-hour averaging period or portion thereof, and compliance with CO and VOC limits shall be based on each rolling three-hour averaging period or portion thereof.~~ **A 3 clock-hour averaging period for these limits shall apply to CEMS data except for NOx emissions during non-transient hours when a 1 clock-hour averaging period shall apply.**

| Pollutant | Emission Limit, lbs/hr |
|---|---|
| Oxides of Nitrogen, NOx (calculated as $NO_2$) | 13.4 |
| Carbon Monoxide, CO | 16.3 |
| Volatile Organic Compounds, VOC | 4.0 |

**Verification:** The project owner shall submit to the District and the CPM turbine CEMS emissions data and calculations demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-SC7**).

**AQ-37** When operating with the duct burner **firing above 19.5 MMBTU/hr heat input**, ~~the~~ **mass** emissions from each **unit** ~~turbine~~ shall not exceed the following emission limits, except during **periods of** startup**,** ~~or~~ shutdown**, low load operation, or tuning.** ~~conditions, as determined by the Continuous Emissions Monitoring System (CEMS) and continuous monitors and / or District approved emissions source testing. Compliance with the NOx, CO, and VOC limits shall be based on each rolling three-hour averaging period.~~ **A 3-clock-hour averaging period shall apply to CEMS data.**

| Pollutant | Emission Limit, lbs/hr |
|---|---|
| Oxides of Nitrogen, NOx (calculated as $NO_2$) | 14.9 |
| Carbon Monoxide, CO | 18.1 |
| Volatile Organic Compounds, VOC | 7.3 |

**Verification:** The project owner shall submit to the District and the CPM turbine CEMS emissions data and calculations demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-SC7**).

**AQ-38** This maximum combined fuel input into the duct burners shall not exceed 780,000 MMBtu per rolling 12-calendar month period. The project owner shall maintain a log that contains, at a minimum, the dates, times, and duct burner fuel consumption when one or both turbines are operated with the duct burners in operation. These logs shall be maintained on site for a minimum of five years and made available to District personnel upon request.

**Verification:** The project owner shall submit to the District and the CPM duct burner fuel consumption data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-SC7**).

**AQ-39** ~~Extended startup shall be defined as the time necessary to reach minimum operating conditions for the air pollution control equipment and to meet the emission limits specified in Conditions **AQ-31** and **AQ-32**, not to exceed four hours, after initial firing of the turbine following a shutdown period of greater than or equal to 48 hours.~~ **A startup period is the period of time that begins when fuel flows to the combustion turbine following a non-operational period. For purposes of determining compliance with the emission limits of this permit, the duration of a startup period shall not exceed 120 consecutive minutes if the steam turbine reheat bowl temperature is above 500° F when the startup period begins and shall not exceed 360 consecutive minutes if the steam turbine reheat bowl temperature is less than or equal to 500° F when the startup period begins.**

**Verification:** The project owner shall submit to the District and the CPM ~~extended~~ startup frequency and duration data as part of the Quarterly Operational Report (**AQ-SC7**).

**AQ-40** **[Replaced by AQ-39]**
~~Regular startup shall be defined as the time necessary to reach minimum operating conditions for the air pollution control equipment and to meet the emission limits specified in Conditions **AQ-31** and **AQ-32**, not to exceed two hours in duration, after initial firing of the turbine following a shutdown period of less than 48 hours.~~

~~**Verification:** The project owner shall submit to the District and the CPM startup frequency and duration data as part of the Quarterly Operational Report (**AQ-SC7**).~~

**AQ-41** ~~Shutdown is defined as the period beginning with the lowering of the output of a gas turbine below 50 percent of its base capacity and below the minimum operating conditions for the air pollution control equipment, and ending when~~

~~combustion has ceased.~~ **For purposes of determining compliance with the emission limits of this permit, a shutdown period is the period of time that begins with the lowering of the gross electrical output of the combustion turbine below 64 MW and that ends five minutes after fuel flow to the combustion turbine ceases, not to exceed 65 consecutive minutes.**

**Verification:** The project owner shall submit to the District and the CPM shutdown frequency and duration data as part of the Quarterly Operational Report (**AQ-SC7**).

**AQ-42** The emissions of particulate matter less than 10 microns (PM10) shall not exceed 14.0 lbs/hr for each turbine with and without duct burner firing. ~~Compliance with this limit shall be based on an initial emissions source test and at least annual source testing thereafter.~~

**Verification:** The project owner shall provide to the District and the CPM the PM10 source test results, as required by ~~**AQ-43** and **AQ-45**~~ **AQ-47**, to demonstrate compliance with this condition.

**AQ-43** **[Deleted (date of adoption)]**

~~Within 30 days after completion of the Commissioning Period, an initial emissions source test shall be conducted by an independent, CARB approved tester at the project owner's expense to show compliance with all applicable emission limits. A source test protocol shall be submitted to the District for written approval at least 60 days prior to source testing. The source test protocol shall comply with the following requirements:~~

~~a) Measurement of oxides of nitrogen (NOx), carbon monoxide (CO), and stack gas oxygen shall be conducted in accordance with the San Diego Air Pollution Control District Method 100, or equivalent, as approved by the District Air Pollution Control Officer.~~

~~b) Measurements of particulate matter less than 10 microns shall be conducted in accordance with the U.S. Environmental Protection Agency (U.S. EPA) Methods 201A and 202 or equivalent, as approved by the District Air Pollution Control Officer.~~

~~c) Measurements of volatile organic compounds (VOC) shall be conducted in accordance with San Diego Air Pollution Control District Methods 25A and / or 18, or equivalent, as approved by the District Air Pollution Control Officer.~~

~~d) Measurement of ammonia shall be conducted in accordance with BAAQMD ST-1B, or equivalent, as approved by the District Air Pollution Control Officer.~~

~~e) Source testing shall be performed at no less than 80 percent of the maximum fired capacity for the combined-cycle system.~~

**Verification:** The project owner shall submit the proposed protocol for the source tests 60 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 45 days prior to the proposed source test date and time.

**AQ-44** **[Deleted (date of adoption)]**

Within 30 days after completion of the Commissioning Period, an initial emissions source test shall be conducted by an independent, CARB approved tester at the project owner's expense to determine the emissions of toxic air contaminants (TAC). A source test protocol shall be submitted to the District for written approval at least 60 days prior to source testing. The source test will not include testing of the cooling towers. At a minimum the following compounds shall be tested for and emissions, if any, quantified:

- Acetaldehyde
- Acrolein
- Benzene
- Formaldehyde
- Toluene
- Xylenes

Protocol: This list of compounds may be adjusted by the District based on source test results to ensure compliance with District Rule 1200 is demonstrated. The District may require one or more or additional compounds to be quantified through source testing as needed to ensure compliance with Rule 1200.

**Verification:** The project owner shall submit the proposed protocol for the source tests 60 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 45 days prior to the proposed source test date and time.

**AQ-45** **[Deleted (date of adoption)]**

A final source test report shall be submitted to the District and the CPM for review and approval. The testing contractor shall include, as part of the test report, a certification that to the best of its knowledge the report is a true and accurate representation of the test conducted and the results.

**Verification:** The project owner shall submit certified initial source test results no later than 60 days following the initial source test date to both the District and CPM for approval.

**AQ-46** The District may require toxic air contaminant emissions **one or more of the following compounds, or additional compounds** to be quantified through source testing periodically as needed to ensure compliance with Rule 1200.**:**

**A) Acetaldehyde**
**B) Acrolein**
**C) Benzene**
**D) Formaldehyde**
**E) Toluene**
**F) Xylenes**

**If the District requires the project owner to perform this source testing, the District shall request the testing in writing a reasonable period of time prior to the testing date, and the project owner shall submit a source test protocol to the District for written approval at least 30 days prior to the testing date.**

**Verification: If the District requires the project owner to perform source testing,** ~~T~~**t**he project owner shall submit the proposed protocol for the source tests ~~60~~ **30** 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 45 days prior to the proposed source test date and time.~~

**AQ-47** ~~This equipment shall be source tested on at least an annual basis to show continued compliance with all applicable emissions limits, unless otherwise directed in writing by the District. An annual CEMS Relative Accuracy Test Audit (RATA), where required, may be used to fulfill the annual source testing requirement for NOx and CO. If the testing will be performed by someone other than the District, a source test protocol shall be submitted to the District for written approval at least 60 days prior to source testing. The source test protocol shall comply with the same requirements as listed in Condition **AQ-43**. Within 60 days after completion of testing, a final test report shall be submitted to the District for review and approval.~~ **This unit shall be source tested to demonstrate compliance with the NOx, CO, VOC, PM-10, and Ammonia emission standards of this permit, using District approved methods. The source test and the NOx and CO Relative Accuracy Test Audit (RATA) tests shall be conducted in accordance with the applicable RATA frequency requirements of 40 CFR75, appendix B, sections 2.3.1 and 2.3.3.**

**Verification:** ~~The project owner shall, if the annual compliance source test is not conducted by the District, submit certified annual compliance source test and/or CEMS RATA results no later than 60 days following the annual source test and/or CEMS RATA date to both the District and CPM for approval.~~ **Within 45 days after completion of the renewal source test or RATA, a final test report shall be submitted to the CPM and District for review and approval.** If the source test is conducted by the District the project owner shall provide a copy of the source test results to the CPM for review within 15 days of their receipt from the District.

**AQ-48** The emissions of any single ~~f~~**F**ederal ~~h~~**H**azardous ~~a~~**A**ir ~~p~~**P**ollutant **(HAP)** shall not equal or exceed 10 tons, and the aggregate emissions of all ~~f~~**F**ederal

~~hazardous air pollutants,~~ **HAPs** shall not equal or exceed 25 tons in any rolling 12-calendar month period. If emissions exceed these limits, the project owner shall apply to amend ~~these limits and conduct a~~ **permit to reflect applicable Federal** Maximum Achievable Control Technology (MACT) ~~analysis~~ **standards and requirements** in accordance with applicable ~~federal U.S. EPA regulations~~ **provisions (including timing requirements) of 40 CFR Part 63**. Compliance with ~~this limit~~ **these single and aggregate HAP limits** shall be based on ~~District approved VOC/TAC and CO/VOC surrogate relationships and the result of District approved source testing~~ **a methodology approved by the District for the purpose of calculating HAP emissions for this permit**.

**Verification:** The project owner shall provide hazardous air pollutant emissions calculations using ~~the District/CPM approved CO/VOC and VOC/TAC surrogate relationships~~ **a methodology approved by the District for the purpose of calculating HAP emissions for this permit** demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-SC7**). If emissions exceed the limits specified in this condition the project owner shall apply to amend ~~these limits and conduct a~~ **permit to reflect applicable Federal** Maximum Achievable Control Technology (MACT) ~~analysis~~ **standards and requirements** in accordance with applicable ~~federal U.S. EPA regulations~~ **provisions (including timing requirements) of 40 CFR Part 63**.

**AQ-49 [Deleted (date of adoption)]**

~~Prior to the initial startup of this equipment, the project owner shall surrender to the District Class A Emission Reduction Credits (ERCs) in an amount equivalent to 125.2 tons per year of NOx to offset the maximum allowable of 104.3 tons per year of NOx emissions for this facility. When additional offsets are available up to 149.3 tons per year, maximum allowable emissions will increase to the maximum potential of 124.4 tons per year of NOx emissions.~~

~~The CPM may approve any such change to the ERC list contained in Air Quality Condition **AQ-SC5** based on the criteria provided in **AQ-SC5.**~~

~~**Verification:** The project owner shall surrender the required ERCs to the District and provide copies of all related correspondence within 15 days of submittal to the CPM for review and approval.~~

~~**Additional General Conditions**~~

**AQ-50 [Replaced by AQ-9]**

~~For each emission limit expressed as pounds per hour or parts per million based on a one-hour averaging period, compliance shall be based on each rolling continuous one-hour period using data collected at least once every 15 minutes when compliance is based on continuous emissions data.~~

~~**Verification:** The project owner shall verify that the emission data provided in the Quarterly Operational Report (**AQ-SC7**) is calculated as specified above and the project~~

~~owner shall make the CEMS emission data available for inspection by representatives of the District, CARB, and the Energy Commission upon request.~~

**AQ-51** **[Replaced by AQ-9]**

~~For each emission limit expressed as pound per hour or parts per million based on a three-hour averaging period, compliance shall be based on each rolling continuous three-hour period using data collected at least once every 15 minutes when compliance is based on continuous emissions monitoring data.~~

**Verification:** ~~The project owner shall verify that the emission data provided in the Quarterly Operational Report (**AQ-SC7**) is calculated as specified above and the project owner shall make the CEMS emission data available for inspection by representatives of the District, CARB, and the Energy Commission upon request.~~

**AQ-52** All records required by **this written permit** ~~Conditions **AQ-1** through **AQ-55**~~ shall be maintained on site for a minimum of five years and made available to the District upon request.

**Verification:** The project owner shall make all necessary records available for inspection by representatives of the District, ~~C~~ARB, and the Energy Commission upon request.

**AQ-53** ~~Pursuant to 40 CFR 72.30(b)(2)(ii) of the Federal Acid Rain Program, the project owner shall submit an application for a Title IV Operating Permit at least 24 months prior to the initial startup of this equipment.~~ **The project owner shall comply with all the applicable provisions of 40 CFR 73, including requirements to offset, hold and retire $SO_2$ allowances.**

**Verification:** ~~The project owner shall provide copies of the Title IV Operating Permit application to the District and the CPM at least 24 months prior to the initial startup of the turbines.~~ **The project owner shall submit to the CPM a certification that the applicable provisions of 40 CFR 73 have been met and the project owner maintains the information necessary to demonstrate compliance with this condition.**

**AQ-54** The project owner shall comply with the continuous emission monitoring requirements of 40 CFR Part 75.

**Verification:** The project owner shall provide the District and the CPM with the information necessary to demonstrate compliance with this condition in the permanent CEMS protocol (**AQ-13**) and as part of the Quarterly Operational Reports (**AQ-SC7**).

**AQ-55** **[Deleted (date of adoption)]**

~~The project owner shall submit an application to the District for a Federal (Title V) Operating Permit, in accordance with District Regulation XIV within 12 months after initial startup of this equipment.~~

~~**Verification:** The project owner shall provide copies of the Title V Operating Permit application to the District and the CPM within 12 months after initial startup of the turbines.~~

Emergency Engine Generator: Cummins engine, Model QSK60G

**Conditions of Certification AQ-SC13 and AQ-56 through AQ-66 apply to the Emergency Engine Generator**

**AQ-56** This internal combustion engine shall not exceed 52 hours of operation per calendar year for non-emergency purposes (testing and maintenance).

**Verification:** The project owner shall submit records required by Conditions **AQ-SC13, AQ-59**, **AQ-60**, and **AQ-62** and by this condition demonstrating compliance in the fourth quarter, Quarterly Operational Reports as required by condition **AQ-SC7**. The project owner shall submit a photograph of the engine hour meter as part of the compliance report. The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.

**AQ-57** At no time shall the subject equipment cause or contribute to a public nuisance as specified in District Rule 51.

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

**AQ-58** Visible emissions including crank case smoke shall comply with Rule 50. (Rule 50)

**Verification:** See verification for Condition **AQ-57**

**AQ-59** Gaseous fuel engines shall use only gaseous fuel which contains no more than 10 grains of sulfur compounds, calculated as hydrogen sulfide, per 100 cubic feet of dry gaseous fuel at standard conditions. Gaseous fuels include natural gas, propane, liquefied petroleum gas (LPG), butane. Gasoline engines shall use only California reformulated gasoline.

**Verification:** The project owner shall make the site available for inspection of equipment and fuel purchase records by representatives of the District, ARB, and the Energy Commission. The owner shall report fuel specifications and quantity used annually. See Verification for Condition **AQ-56** for reporting requirements.

**AQ-60** A non-resettable engine hour meter shall be installed on this engine, maintained in good working order, and used for recording engine operating hours. If a meter is replaced, the air pollution control district's compliance division shall be notified in writing within 10 calendar days. The written

notification shall include the following information:

A. Old meter's hour reading.

B. Replacement meter's manufacturer name, model, and serial number if available and current hour reading on replacement meter.

C. Copy of receipt of new meter or installation work order.

D. A copy of the meter replacement notification shall be maintained on site and made available to the Air Pollution Control District upon request. (Rule 69.4.1)

**Verification:** The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission. See Verification for condition **AQ-56** for reporting requirements.

**AQ-61** The owner or operator of this engine shall conduct periodic maintenance of the engine and add-on control equipment, if any, as recommended by the engine and control equipment manufacturers or as specified by the engine servicing company's maintenance procedures. The periodic maintenance shall be conducted at least once each calendar year. (Rule 69.4.1)

**Verification:** See verification for Condition **AQ-57.**

**AQ-62** The owner or operator of this engine shall maintain an operating log containing, at a minimum, the following: dates and times of engine operation, indicating whether the operation was for non-emergency purposes or during an emergency situation and the nature of the emergency, if available (these records are not required if the total engine operations for any purpose, including emergency situation, do not exceed 52 hours in a calendar year); total cumulative hours of operation per calendar year, based on actual readings of engine hour meter; records of periodic maintenance including dates maintenance was performed.

**Verification:** The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission. . See Verification for condition **AQ-56** for reporting requirements.

**AQ-63** All operational and maintenance logs required by this permit shall be kept a minimum of 3 years unless otherwise indicated by the conditions of this permit and these records shall be made available to the Air Pollution Control District upon request.

**Verification:** See verification for Condition **AQ-57.**

**AQ-64** The owner or operator of the engine shall maintain the following records on site for at least the same period of time as the engine to which the records apply is located at the site:

A. Applicable fuel certification.

B. Manual of recommended maintenance provided by the manufacturer, or maintenance procedures specified by the engine servicing company.

C. Records of the annual engine maintenance including date the maintenance was performed. These records shall be made available to the Air Pollution Control District upon request. (Rule 69.4.1)

**Verification:** See verification for Condition **AQ-57.**

**AQ-65** The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

**Verification:** See verification for Condition **AQ-57.**

**AQ-66** This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other government agencies.

**Verification:** See verification for Condition **AQ-57.**

**Conditions of Certification AQ-1 through AQ-55 and AQ-67 through AQ-83 apply to each of the Power Station Units No. 1 and No. 2**

**AQ-67 For purposes of determining compliance based on source testing, the average of three subtests shall be used. For purposes of determining compliance with emission limits based on the CEMS, data collected in accordance with the CEMS protocol shall be used and averaging periods shall be as specified herein.**

**Verification: The project owner shall submit to the District and CPM the test reports and RATA results to verify the emission results were recorded in accordance with this condition.**

**AQ-68 When the unit is operating, the concentration of Oxides of Nitrogen (NOx), calculated as Nitrogen Dioxide ($NO_2$) and measured in the exhaust stack, shall not exceed 42 ppmvd corrected to 15 percent oxygen, calculated over each clock hour period except for periods of Startup or Shutdown, as defined in Rule 69.3. All CEMS calculations, averages shall be performed in accordance with the CEMS protocol approved by the District.**

**Verification: The project owner shall certify compliance with this condition as part of the Quarterly Operational Report (AQ-SC7) and maintain information necessary to demonstrate compliance with this condition.**

**AQ-69 The discharge of particulate matter from the exhaust stack of the unit shall not exceed 0.10 grains per dry standard cubic foot (0.23 grams/dscm). The District may require periodic testing to verify compliance with this standard.**

**Verification: Upon request of the District, the project owner shall conduct a source test for particulate matter and submit the results as part of the Quarterly Operational Report (AQ-SC7).**

**AQ-70 Visible emissions from the lube oil vents and the exhaust stack of the unit shall not exceed 20 percent opacity for more than three (3) minutes in any period of 60 consecutive minutes.**

**Verification: The project owner shall submit to the District and the CPM certification of compliance with this condition as part of the Quarterly Operational Report (AQ-SC7).**

**AQ-71 When combusting fuel, Ammonia shall be injected at all times that the SCR outlet temperature is 510 degrees Fahrenheit or greater.**

**Verification: The project owner shall submit to the District and the CPM certification of compliance with this condition as part of the Quarterly Operational Report (AQ-SC7).**

**AQ-72 The Ammonia injection flow rate shall be continuously measured, recorded and controlled. The Ammonia injection flow control equipment shall be installed, calibrated and maintained in accordance with a District approved protocol.**

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

**AQ-73 The concentration of Ammonia solution used in the Ammonia injection system shall be less than 20 percent ammonia by weight. Records of Ammonia solution concentration shall be maintained on site and made available to District personnel upon request.**

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

**AQ-74 Low load operation is a period of time that begins when the gross electrical output (load) of the combustion turbine is reduced below 64 MW from a higher load and that ends 10 consecutive minutes after the combustion turbine load next exceeds 64 MW provided that fuel is continuously combusted during the entire period and one or more clock**

**hour concentration emission limits specified in this permit are exceeded as a result of the low-load operation. Periods of operation at low load shall not exceed 130 minutes in any calendar day nor an aggregate of 780 minutes in any calendar year, and no period of operation at low load shall begin during a startup period.**

**Verification: The project owner shall submit to the District and the CPM certification of compliance with this condition as part of the Quarterly Operational Report (AQ-SC7).**

**AQ-75 Tuning is defined as adjustments to the combustion system that involves operating the unit in a manner such that the emissions control equipment may not be fully effective or operational. Only one combustion turbine will be tuned at any given time. Tuning events shall not exceed 480 minutes in a calendar day nor exceed 40 hours in a calendar year The District compliance division shall be notified at least 24 hours in advance of any tuning event.**

**Verification: The project owner shall submit to the District and the CPM tuning events and duration data as part of the Quarterly Operational Report (AQ-SC7).**

**AQ-76 A CEMS Protocol is a document approved in writing by the APCD M&TS division that describes the Quality Assurance and Quality Control procedures for monitoring, calculating and recording stack emissions from the unit.**

**Verification: The project owner shall make the CEMS approval available for inspection by representatives of the District, ARB, and the Energy Commission upon request.**

**AQ-77 If source testing will be performed by an independent contractor and witnessed by the District, a source test protocol shall be submitted to the District for written approval at least 30 days prior to source testing. The source test protocol shall comply with the following requirements:**

**A. Measurements of NOx, CO, and $O_2$ emissions 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.**

**B. Measurement of VOC emissions shall be conducted in accordance with EPA Methods 25A and/or 18, or alternative methods approved by the District and EPA.**

**C. Measurements of ammonia emissions shall be conducted in accordance with Bay Area Air Quality Management District ST-1B or an alternative method approved by the District and EPA.**

**D. Measurements of PM-10 emissions shall be conducted in accordance with EPA Methods 201A and 202 or alternative methods approved by the district and EPA.**

**E. Source testing shall be performed with both the combustion turbine and the duct burner in operation. Each duct burner shall operate with a minimum heat input of 97 MMBTU/hr.**

**F. Source testing shall be performed at the most frequently used load level, as specified in 40 CFR Part 75 Appendix A Section 6.5.2.1.d, provided it is not less than 80 percent of the unit's rated load unless it is demonstrated to the satisfaction of the district that the unit cannot operate under these conditions. If the demonstration is accepted, then emissions source testing shall be performed at the highest achievable continuous level power level.**

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

**H. Measurements of opacity shall be conducted in accordance with EPA Method 9 or an alternative method approved by the District and EPA.**

**I. Measurement of fuel flow shall be conducted in accordance with an approved test protocol.**

**Verification: If source testing will be performed by an independent contractor and witnessed by the District, a source test protocol shall be submitted to the District for written approval at least 30 days prior to source testing. The project owner shall notify the CPM of the submittal of the source test protocol required under this condition within 15 days of its submittal to the District. The project owner shall provide the CPM documentation of the District approval of the source test protocol required under this condition within 15 days of its receipt.**

**AQ-78 Within 45 days after completion of the renewal source test or RATA, a final test report shall be submitted to the District for review and approval.**

**Verification: The project owner shall submit to the District and the CPM source test data or RATA within 45 days after completion of the renewal source test or RATA.**

**AQ-79** When the CEMs is not recording data and the unit is operating, hourly NOx emissions annual calculations shall be determined in accordance with 40 CFR 75 Appendix C. Additionally, hourly CO emissions for the annual emission calculations shall be determined using the hourly emission rate recorded by the CEMs during the most recent hours in which the unit operated 3 continuous hours at no less than 80 percent of full power rating. Alternate CO emission factors shall be determined from compliance source test emissions data. The alternate hourly CO emission rate shall be reviewed and approved by the District, in writing.

**Verification:** The project owner shall verify that the emission data provided in the Quarterly Operational Report (AQ-SC7) is calculated as specified above and the project owner shall make the CEMS emission data available for inspection by representatives of the District, ARB, and the Energy Commission upon request.

**AQ-80** Any violation of any emission standard as indicated by the CEMs shall be reported to the District's Compliance Division within 96 hours after such occurrence.

**Verification:** The project owner shall submit to the District and the CPM certification of compliance with this condition as part of the Quarterly Operational Report (AQ-SC7).

**AQ-81** Operating logs or Data Acquisition System (DAS) records shall be maintained to record the beginning and end times and durations of all startups, shutdowns, low load operations, and tuning periods to the nearest minute; quantity of fuel used (in each clock hour, calendar month, and 12 calendar month period) in standard cubic feet; hours of daily operation; and total cumulative hours of operation during each calendar year.

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

**AQ-82** The Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.

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

**AQ-83** The project owner shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

**Verification: If the District requires the project owner to provide information, the project owner shall submit the required information to both the District and CPM for approval.**

## REFERENCES


ARB 2014, California Air Resources Board, Air Designation Maps available on ARB website. http://www.arb.ca.gov/desig/adm/adm.htm. Accessed 2014.

CEC 2003, California Energy Commission, Final Commission Decision, Palomar Energy Project (01-AFC-24), August 2003.

CEC 2010a, California Energy Commission, Palomar Energy Center Project (01-AFC-24C) Staff Analysis of Proposed Modifications to Install and Operate Emergency Engine, October 2010.

CEC 2010b, California Energy Commission, Order Approving a Petition to Install and Operate an Emergency Engine, Palomar Energy Center Project (01-AFC-24C), December 2010.

CEC 2013, California Energy Commission, Order Approving a Petition to Amend Air Quality Condition of Certification AQ-SC13, May 2013.

SDAPCD 2002, San Diego Air Pollution Control District, Final Determination of Compliance (TN# 37668), Palomar Energy Project, dated December 6, 2002.

SDG&E 2006, San Diego Gas and Electric Company, Application for Amendment of the Final Determination of Compliance, submitted to San Diego County Air Pollution Control District, May 2006.

SDG&E 2013a, San Diego Gas and Electric Company, Petition for Amendment to Upgrade the Advanced Gas Path Technology of the Combustion Turbines and to Conform Air Quality Conditions of Certification with Permit Conditions of the Revised Permit to Operate, Palomar Energy Center Project (01-AFC-24C), February 22, 2013.

SDG&E 2013b, San Diego Gas and Electric Company, Petition to Separate Two Amendments from SDG&E, Palomar Energy Center Project (01-AFC-24C), docketed September 20, 2013.

U.S. EPA 2014, Environmental Protection Agency, The Green Book Nonattainment Areas for Criteria Pollutants. http://www.epa.gov/oar/oaqps/greenbk/index.html. Accessed 2014.