DOCKETED

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Document Title:	PTA Cover letter, Executive Summary and Staff Analysis
Description:	Cover letter, Executive Summary and Staff Analysis for the Colusa Generating Station (CGS) Petition to Amend (PTA) for Air Quality
Filer:	Eric Veerkamp
Organization:	California Energy Commission
Submitter Role:	Commission Staff
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CALIFORNIA ENERGY COMMISSION
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SACRAMENTO, CA 95814-5512
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DATE: November 3, 2015

TO: Interested Parties

FROM: Eric Veerkamp, Compliance Project Manager

SUBJECT: **Colusa Generating Station (06-AFC-9C)**
Staff Analysis of Proposed Amendment for Air Quality

On July 27, 2015, Pacific Gas and Electric Company (PG&E) filed a petition with the California Energy Commission (Energy Commission) requesting to modify the Final Decision for the Colusa Generating Station (CGS). The modifications proposed in the petition would rectify inconsistencies between the Energy Commission Air Quality Conditions of Certification and the conditions contained in the Federal Title V Operating Permit issued by the Colusa County Air Pollution Control District (District) on September 1, 2014. The Title V Permit contained new administrative requirements and a reorganized condition structure, but does not make changes to any emission limits, technology, or equipment.

The combined-cycle, natural gas-fired, air-cooled, 660-megawatt electricity-generating facility was certified by the Energy Commission in its Decision on April 23, 2008, and began commercial operation on December 22, 2010. The facility is located in an unincorporated area of Colusa County, California, approximately 6 miles north of the community of Maxwell and 4 miles west of Interstate 5.

Energy Commission staff (staff) reviewed the petition and assessed the impacts of this proposal on environmental quality and on public health and safety. Staff has analyzed the Petitioner's suggested modified Conditions of Certification **AQ-4, AQ-5, AQ-10, AQ-11, AQ-13, AQ-19, AQ-20, AQ-22**, and **AQ-25**. Staff has also included new Conditions of Certification **AQ-30** through **AQ-45** that are not in the original Commission Decision, but are in the District's Title V Permit to Operate. It is staff's opinion that, with the inclusion of these modified and new conditions, the project 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 (Cal. Code of Regs., tit. 20, § 1769).

The amendment petition and the Staff Analysis have been posted on the Energy Commission's CGS webpage at http://www.energy.ca.gov/sitingcases/colusa/. Staff intends to recommend approval of the petition at the December 9, 2015 Business Meeting of the Energy Commission. After the Final Decision, the Energy Commission's Order regarding this petition will also be posted on the Commission's CGS webpage.

This notice is being provided to interested parties and property owners adjacent to the CGS site. This notice has been mailed to the CGS mail list and sent electronically to the CGS list serve.

Any person may comment on the Staff Analysis. Those who wish to comment on the analysis are asked to submit their comments by 5:00 pm, November 20, 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. 06-AFC-9C
1516 Ninth Street
Sacramento, CA 95814-5512

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

If you have questions about this Notice, please contact Eric Veerkamp, Compliance Project Manager, at (916) 654-4611, or by fax to (916) 654-3882, or via e-mail at eric.veerkamp@energy.ca.gov.

For information on participating in the Energy Commission's review of the proposed modification to the CGS, contact the Energy Commission Public Adviser's Office at (800) 822-6228 (toll-free in California). The Public Adviser's Office can also be contacted via e-mail at publicadviser@energy.ca.gov. News media inquiries should be directed to the Energy Commission Media Office at (916) 654-4989, or by e-mail at mediaoffice@energy.ca.gov.

Mail List 7182
Colusa Generating Station List Serve

COLUSA GENERATING STATION (06-AFC-9C)
Petition To Amend the Final Decision for Air Quality
EXECUTIVE SUMMARY
Eric Veerkamp

INTRODUCTION

On July 27, 2015, Pacific Gas and Electric Company (PG&E), filed a petition with the California Energy Commission (Energy Commission), requesting to amend the Final Decision for the Colusa Generating Station (CGS).

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

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

PROJECT LOCATION AND DESCRIPTION

The combined-cycle, natural gas-fired, air-cooled, 660-megawatt electricity-generating facility was certified by the Energy Commission in its Decision on April 23, 2008, and began commercial operation on December 22, 2010. The facility is located in an unincorporated area of Colusa County, California, approximately six miles north of the community of Maxwell and four miles west of Interstate 5.

DESCRIPTION OF PROPOSED MODIFICATIONS

The modifications proposed in the petition would rectify inconsistencies between the Energy Commission Air Quality Conditions of Certification and the conditions contained in the Federal Title V Operating Permit issued by the Colusa County Air Pollution Control District (District) on September 1, 2014. This Title V Permit contained new administrative requirements and a reorganized condition structure.

NECESSITY FOR THE PROPOSED MODIFICATIONS

As stated by PG&E in their original petition, dated June 25, 2015, the proposed modifications (9 modified conditions and 16 new conditions) are needed to update the Decision, in accordance with the changes that were incorporated into the revised, updated September 1, 2014 Colusa County Air Pollution Control District Title V permit.

STAFF'S ASSESSMENT OF THE PROPOSED PROJECT CHANGES

The Staff Analysis includes modified Air Quality Conditions of Certification **AQ-4, AQ-5, AQ-10, AQ-11, AQ-13, AQ-19, AQ-20, AQ-22**, and **AQ-25** and new Conditions of Certification **AQ-30** through **AQ-45**. Staff believes the changes would be beneficial because they would facilitate updating project operations for additional detail on upset/breakdown monitoring and more accurately document equipment maintenance, modifications for more accurate testing procedures, and permit compliance with regulated procedures including Continuous Emissions Monitoring System (CEMS), hot and cold startups, and applicable federal standards and testing procedures.

Staff's conclusions in each technical area are summarized in **Executive Summary Table 1**, below.

Executive Summary Table 1
Summary of Impacts for Each Technical Area

TECHNICAL AREAS REVIEWED	**STAFF RESPONSE**			Revised or New Conditions of Certification Recom-mended
	Technical Area Not Affected	No Significant Environmental Impact or LORS noncompliance*	Process As Amendment	
Air Quality			X	X
Biological Resources	X			
Cultural Resources	X			
Efficiency	X			
Facility Design	X			
Geological Resources	X			
Hazardous Materials Management	X			
Land Use	X			
Noise & Vibration	X			
Paleontological Resources	X			
Public Health	X			
Reliability	X			
Socioeconomics	X			
Soils & Water Resources	X			
Traffic & Transportation	X			
Transmission Line Safety & Nuisance	X			

TECHNICAL AREAS REVIEWED	STAFF RESPONSE			Revised or New Conditions of Certification Recom-mended
	Technical Area Not Affected	No Significant Environmental Impact or LORS noncompliance*	Process As Amendment	
Transmission System Engineering	X			
Visual Resources	X			
Waste Management	X			
Worker Safety & Fire Protection	X			

*There is no possibility that the proposed modifications would have a significant effect on the environment, and the modifications would 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 (Cal. Code Regs., tit. 20, § 1769 (a)(2)).

STAFF RECOMMENDATIONS AND CONCLUSIONS

Staff concludes that 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:

- The proposed modification(s) would not change the findings in the Energy Commission's Final Decision pursuant to Title 20, California Code of Regulations, Section 1755
- 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 LORS;
- The modifications proposed in the petition would not cause an increase or other undue negative consequence on air quality;
- The proposed modifications would be beneficial to the public, because the facility would be able to continue operating in normal fashion with no significant change as part of the state's gas-fired fleet; and
- The proposed modifications are justified because there has been a substantial change in circumstances since the Energy Commission certification, brought on by the changes implemented by the District in their reissued Title V Operating Permit, warranting a modification in the conditions.

AIR QUALITY

Staff Analysis of the Petition to Amend
Air Quality Conditions of Certification
for Colusa Generating Station (06-AFC-9C)
Jacquelyn Record

SUMMARY OF CONCLUSIONS

Staff finds that the administrative changes and additions to the Conditions of Certification for the Colusa Generating Station (CGS) are minor and would not affect air quality impacts. The facility would continue to comply with applicable federal, state and Colusa County Air Pollution Control District (CCAPCD or District) laws, ordinances, regulations and standards (LORS).

INTRODUCTION

On April 23, 2008, the California Energy Commission (Energy Commission) issued a Final Decision to authorize the construction and operation of the CGS. On August 14, 2008, the project owner, Pacific Gas and Electric Company (PG&E) filed a Petition to Amend the final design of the CGS, which was approved by the Commission on July 15, 2009. The July 15, 2009 approval included various modifications to Air Quality Conditions of Certification, therefore, the current Air Quality Conditions of Certification are contained in the Final Decision and in the approval of the July 15, 2009 Petition to Amend (CEC 2009).

On July 27, 2015, the Energy Commission received another Petition to Amend from the CGS project owner, PG&E. This petition proposes modifying various CGS project Air Quality Conditions of Certification as described below, including some new administrative conditions and reorganization of some existing conditions after the District issued a Title V Permit to Operate to the CGS, dated September 1, 2014[1]. Energy Commission staff became aware of these changes and requested PG&E to file this petition to remove discrepancies between the District's Title V Permit and current Energy Commission Air Quality Conditions of Certification after their September 2014 Title V update. CGS had been complying with and reporting the more stringent of the requirements in quarterly and annual reports submitted to the Energy Commission. This amendment does not request changes that would increase emission limits, or to technology or equipment.

The Petitioner is proposing revisions to the following conditions of certification to:

- Include additional detail on Upset/Breakdown Conditions; change Condition of Certification **AQ-4**);
- Add additional language to properly document equipment maintenance and prevent nuisances; change Condition of Certification **AQ-5**;

[1] Title V Operating Permit, Permit Number 21006-0259, dated September 1, 2014 received by PG&E on October 24, 2014, docketed with the Commission on October 30, 2014, TN 203288.

- Add additional detail regarding pipeline quality natural gas requirements to Condition of Certification **AQ-10**;
- Remove natural gas testing from a specific location; change Condition of Certification **AQ-11**;
- Include additional requirements with the applicable federal standards and test procedures; change Condition of Certification **AQ-13**;
- Modify Continuous Emissions Monitoring System (CEMS) monitoring and Relative Accuracy Test Audit (RATA) reporting requirements; changes to Conditions of Certification **AQ-19**, **AQ-20,** and **AQ-22**;
- Define gas turbine emission limits during cold, warm, and hot starts and for shutdowns; change Condition of Certification **AQ-25**; and
- Add new conditions of certification that were not in the original Decision but were included in the District's Title V Permit to Operate (CCAPCD 2014). New Conditions of Certification would be numbered **AQ-30** to **AQ-45** and apply to various reporting requirements.

In this analysis, staff evaluated whether these changes would have any significant air quality impacts. Most are administrative changes but others, both new and modified conditions, will continue to limit emissions.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS) COMPLIANCE

The project was originally analyzed by staff in November 2007 (CEC 2007) and also for a subsequent amendment in March of 2009 (CEC 2009). There have been no changes to applicable LORS for this facility as they would relate to these requested changes. However, the attainment status relative to both National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) has changed since the original project and subsequent amendment analyses. Current status is shown below in **Air Quality Table 1**.

Air Quality Table 1
Federal and State Attainment Status in Colusa County

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

Source: ARB 2015

[a] On February 17, 2012 U.S. EPA designated all of California as "unclassifiable/attainment" for the federal short-term NO_2 standard.

ANALYSIS

Include additional detail to an Upset/Breakdown Condition (AQ-4)

The District's Title V Permit to Operate included additional language in order to address necessary definitions and proper procedures when breakdowns and malfunctions occur. These procedures include: (1) if a breakdown occurs, Energy Commission staff and the local Air Pollution Control Officer (APCO) are to be notified within twenty-four (24) hours or by 9:00 am the following working day; and (2) all breakdowns shall be logged and investigated and a written statement of the occurrence shall be filed with the District within 72 hours. Staff agrees with this change, and this change would not affect any air emissions.

Add Additional Language to Properly Maintain Equipment and Prevent Nuisances (AQ-5)

The District Title V Permit to Operate added additional language requiring the project owner to operate all air pollution control equipment in a manner that is consistent with good air pollution control practices for minimizing emissions, and avoiding any potential nuisances that may occur at any point beyond the facility's property lines. This addition to **AQ-5** would have no effect on air emissions; staff agrees with this change.

Add Additional Detail Regarding Pipeline Quality Natural Gas (AQ-10)

The project owner has requested changes to **AQ-10** that would slightly change language in the condition that addresses the quality of natural gas that may be used at the CGS facility. The change would require any stationary fuel burning equipment to be fired exclusively on California Public Utility Commission (CPUC) regulated pipeline quality natural gas. Staff agrees with this change as it would ensure that particulate matter emissions remain within allowable emissions rates.

Remove Additional Gas Testing from a Specific Location (AQ-11)

The District Title V Permit has removed vendor-specific and location-specific natural gas requirements as part of their annual average sulfur content reporting. The project owner has requested to remove the requirement for sulfur data to come from Burney, CA. Staff agrees with this change; this change would not affect any air emissions.

Include Additional Requirements for Applicable Federal Standards and Test Procedures (AQ-13)

Currently Condition of Certification **AQ-13** states: "*All applicable federal standards and test procedures of Subpart KKKK -- Standards of Performance for Stationary Combustion Turbines shall be met*". The District's Title V Permit defined all of the applicable federal standards and test procedures of Subpart KKKK. The project owner has requested these requirements to be specifically listed in the Energy Commission conditions of certification. The additions are as follows: (1) the project owner shall not discharge any gases which contain nitrogen oxides (NOx) in excess of 15 parts per million by volume (ppmv) when operating above 75 percent load, and 96 ppmv when operating below 75 percent load, over a 4 hour rolling average corrected to 15 percent

oxygen; (2) the turbines shall not burn any fuel which contains total sulfur emission in excess of 0.06 pounds sulfur oxides (SO_2) per million British thermal units (BTU) (lb SO_2/MMBtu) heat input; (3) source testing to be conducted using Method 20 or an alternative; (4) sulfur content to be determined using ATCM D 1072 or alternative, to determine fuel sulfur levels for compliance with SOx emission limits; (5) excess emissions and monitoring systems performance reports to be submitted quarterly. Since the project owner was already required to follow all applicable federal standards and test procedures of Subpart KKKK, these changes would not have an effect on air emissions; staff agrees with these changes.

Modification to Continuous Emissions Monitoring System (CEMS) Monitoring and Relative Accuracy Test Audit (RATA) Reporting Requirements (AQ-19, AQ-20 and AQ-22)

The District's Title V permit to Operate conditions use slightly modified language concerning monitoring and reporting requirements contained in Conditions of Certification **AQ-19**, **AQ-20** and **AQ-22**. The current condition **AQ-19** states RATA testing shall be conducted annually to verify compliance. The project owner has requested to change the language to state "once every four calendar quarters, according to the performance specifications under 40 CFR 60 Appendix B to Part 60" to be consistent with the current Title V Permit to Operate. Staff agrees with this change; it would not affect any air emissions.

In Condition of Certification **AQ-20**, the project owner has requested to replace the word "remote" with "real-time" regarding access to "CEMS data" which replaces the words "data logger". Staff agrees with this change; it would not affect any air emissions.

In Condition of Certification **AQ-22**, the project owner has requested to replace the existing language with the District's Title V permit language addressing reporting the CEMS data with greater specificity. Specifically, CEMS data shall be submitted in quarterly reporting. Similarly, this change would require an annual report to be submitted for the CGS facility including: (1) total emission for all pollutants for each combustion unit and the entire facility; (2) total operating hours for each combustion unit; (3) numbers and types of startups and shutdowns for each CTG; (4) total fuel used for each combustion units; (5) results from the monthly sulfur content tests; and (6) total ammonia used. These changes include more detail needing to be reported for the Title V permit. Staff agrees with these changes; they would not affect any air emissions.

Add Defined Gas Turbine Emission Limits During Cold, Warm, and Hot Starts and Shutdowns (AQ-25)

The project owner has requested an addition to the current **AQ-25**, which currently only includes total emissions on an hourly basis and on a daily basis. The requested change would add limiting emissions during various startup conditions (cold, warm, hot) and shutdowns. The original Final Staff Assessment (FSA)[2] included a table for these

[2] CEC 2007 (California Energy Commission) 2007. Final Staff Assessment Colusa Generating Station (06-AFC-9). November 2007.

various startup and shutdown conditions, on page 4.1-23 **Air Quality Table 14** titled, *Startup and Shutdown Emission Estimates*. The Title V Permit included this same table as part of their conditions, and additionally required only one gas turbine to be started at a time. For consistency, staff agrees with this change; the startup and shutdown conditions added a table to condition **AQ-25**. These changes would not affect air emissions and would ensure that the facility performs in a manner consistent with the air quality impact analysis in the FSA.

Adding New Conditions of Certification that were not in the Original Decision and were Included in the District's Title V Permit to Operate (AQ-30 to AQ-45)

The project owner has requested further consistency with the Title V Permit by adding conditions that are not currently in the Energy Commissions Conditions of Certification. These additions include Ringlemann No. 2 (40% opacity) requirement in **AQ-30**. **AQ-31** requires particulate emission to not exceed 0.30 grains per cubic foot of dry gas calculated to 12 percent CO_2 at standard conditions. **AQ-32** requires natural gas sulfur compounds to not exceed 0.2 percent by volume. **AQ-33** includes procedures and definitions for an "emergency event". **AQ-34** and **AQ-35** require the project owner to report any deviations from the permit, and submit compliance certification reports to the Energy Commission, U.S. Environmental Protection Agency (EPA) and the Air Pollution Control Officer (APCO). **AQ-36** requires the project owner to provide results of testing done to determine the sulfur content of the natural gas as fuel at the facility if requested by the APCO. **AQ-37** requires all records of all CEM and support information to be retained on site for at least five years. **AQ-38** and **AQ-39** require emissions source tests and the CEMS to be in compliance with **AQ-14**, **AQ-15**, **AQ-16**, **AQ-17**, **AQ-25**, and **AQ-26**. Staff agrees with these additions; the changes would not affect any air emissions.

For consistency the project owner has also requested new conditions **AQ-40** through **AQ-45**. **AQ-40** would add language requiring source testing to be conducted as required by **AQ-7** and **AQ-8** using Test Method 20 or approved alternative method. **AQ-41** would require the amount of excess zero and span to be recorded, in accordance with all applicable performance specifications in 40 CFR 60 Appendix B to Part 60 of the Code of Federal Regulations. **AQ-42** defines that a CEMs system shall be in continuous operation and shall complete a minimum of one cycle of operation for each successive 15-minute period. **AQ-43** requires the CEMs system shall reduce all data to 1-hour averages which shall be computed from four or more data points to fully represent the full 1-hour period. **AQ-44** requires that the project owner shall maintain record of occurrence and durations of any startup, shutdown, or malfunction in the operation of the gas turbines, or any periods during which the CEMs system is inoperative. **AQ-45** requires the project owner to maintain a file with all measurements, performance testing, CEMS performance evaluations, and all device calibration checks. These records shall be retained for at least two years following the date of measurements, maintenance, report, and records. Staff agrees with these additional requirements; the changes would not affect any air emissions.

CONCLUSIONS AND RECOMMENDATIONS

The administrative changes, additions and deletions are minor and would not increase air quality impacts. Staff recommends adopting the revisions as described above.

With the recommended revised and added conditions, staff concludes the amended project will continue to comply with all LORS and will not result in air quality impacts greater than those previously evaluated in the Final Staff Analysis (FSA), Commission Decision, and subsequent amendments.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

The recommended modifications to conditions of certification are provided **in bold and underline** for additions and ~~strikethrough~~ for deletions.

Only changed conditions of certification are listed below. **Attachment A** contains a complete list of all conditions of certification, without markup or strikethrough. They would all apply if these changes are adopted by the Energy Commission.

STAFF CONDITIONS

Staff is recommending the revised conditions and adding sixteen new conditions that were provided in the District's Title V permit and are shown below. References to the CPM refer to the Energy Commission's Compliance Project Manager (CPM). Conditions of Certification not shown below are recommended to remain unchanged.

AQ-4 ~~If any upset or breakdown occurs with equipment under permit in such a manner that may cause excess emissions of air contaminants, the APCO shall be notified of such failure or breakdown within 24 hours or by 9:00 a.m. by the following working day. The person responsible shall also submit a written statement of full disclosure of the upset/breakdown to the District within 72 hours. The report shall contain the date, time, duration, estimated emissions, cause, and remedy.~~**Upset/Breakdown Condition**

a. **If any upset or breakdown occurs with equipment under permit in such a manner that may cause excess emissions of air contaminants, the APCO shall be notified of such failure or breakdown within twenty-four (24) hours or by 9:00 a.m. by the following working day.**

b. **The breakdown shall be logged, investigated and handled to its final disposition.**

c. **The project owner shall also submit a written statement of full disclosure of the upset/breakdown to the District within 72 hours. The report shall contain the date and time of the event and also the following information:**

    1. **Duration of excessive emissions;**
    2. **Estimate of quantity of emissions;**
    3. **Statement of the cause of the occurrence; and**

4. **Corrective measures to be taken to prevent a recurrence.**

d. **A breakdown condition is an unforeseeable failure or malfunction of any air pollution control equipment or related operating equipment which causes a violation of any emission limitation or restriction prescribed by the District's rules and regulations, or by state law, or similar failure of any required in stack continuous monitoring equipment.**

In the case of shut-down or re-start of air pollution control equipment for necessary scheduled maintenance, the intent to shut down such equipment shall be reported to the Colusa County Air Pollution Control District (District) Air Pollution Control Officer (APCO) at least twenty-four (24) hours prior to the planned shutdown. Such notification does not exempt the facility from complying with all permit limits and requirements.

Verification: The project owner shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM along with the District. (**AQ-22**).

AQ-5 **At all times, including periods of startup, shutdown, and malfunction, project owner shall, to the extent practicable, maintain and operate all fuel burning equipment, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.** Fugitive emissions, including dust and odors, shall be controlled at all times such that a nuisance is not created at any point beyond the facility's property lines.

Verification: The project owner will document any complaints that it has received from the public in the Quarterly Operation Reports (**AQ-22**). The project owner shall make the site available for inspection by representatives of the District, ARB, and the Energy Commission.

AQ-10 **Stationary fuel burning equipment including, t**~~T~~he gas turbines, duct burners, and natural gas water bath heater shall be fired exclusively on **California Public Utility Commission (CPUC) regulated** pipeline quality natural gas.

Verification: The project owner shall submit information on the quality and type of fuel used for the gas turbines, duct burners, and natural gas water bath heater to the CPM and the APCO in the Quarterly Operation Reports (**AQ-22**).

AQ-11 The annual average sulfur content in the natural gas used at the facility shall be less than or equal to 0.3 grains per 100 standard cubic feet (SCF). Monthly testing, at the site, using approved methods (i.e., EPA 19 and ASTM D-3246) is required to determine the sulfur content of the natural gas. ~~Pacific Gas and Electric natural gas testing data from Burney will be also be reviewed and provided to the District.~~

Verification: The project owner shall compile the required data on the sulfur content of the natural gas and submit the information to the CPM and the APCO in the Quarterly Operation Reports (**AQ-22**).

AQ-13 All applicable federal standards and test procedures of Subpart KKKK -- Standards of Performance for Stationary Combustion Turbines shall be met.

The project owner shall not cause to be discharged into the atmosphere from the General Electric gas turbines, any gases which contain nitrogen oxides (NOx) in excess of 15 parts per million by volume (ppmv) when the unit is operating above 75% of peak load and 96 ppmv when operating below 75% of peak load. All concentrations are to be calculated on a 4 hour rolling average and corrected to 15 percent oxygen.

The Project Owner shall not burn in the General Electric gas turbines any fuel which contains total potential sulfur emissions in excess of 0.06 pounds SO2 per million Btu (lb SO2/MMBtu) heat input.

When conducting the source test required in Condition of Certification AQ-8, Method 20 (or subsequent or approved alternative method) shall be used to determine the nitrogen oxides, and oxygen concentrations. The NOx emissions shall be determined at a point within plus or minus 25 percent of 100 percent of peak load.

Upon Energy Commission and District request, the project owner shall use ASTM D 1072, or alternatively D3246, D4084, D4486, D4810, D6228, D6667, or gas processors association Standard 2377 (or subsequent or approved alternative method) to determine fuel sulfur levels for compliance with the SOx emission limits specified in Conditions of Certification AQ-14, AQ-15, AQ-18, AQ-25, AQ-26, and AQ-27.

The project owner shall submit an excess emissions and monitoring systems performance report and/or a summary report to the Energy Commission, District and the EPA semiannually. This report shall contain the information specified in 40 CFR 60 Subpart A- General Provisions, Section 60.7(c) and (d) and shall be postmarked by the 30th day following the end of each calendar quarter.

Verification: The project owner shall provide copies of all correspondence with U.S.EPA regarding compliance with Subpart KKKK provisions to the District and CPM in the Quarterly Operation Reports (**AQ-22**), and shall integrate required testing procedures into the facility source testing plan (**AQ-8**).

AQ-19 Continuous emission monitoring systems (CEMS) shall be installed to sample, analyze, and record NOx, CO, and O_2 concentration in the exhaust gas of both HRSG stacks. This system will generate reports of emissions data in accordance with permit requirements and will send alarm signals to the plant distributed control system (DCS) control room when the level of emissions approaches or exceeds pre-selected limits. ~~Relative accuracy test~~

~~audits (RATA) shall be conducted annual to verify the performance of the CEM system.~~ **A Relative Accuracy Test Audit (RATA) must be conducted on the CEMS at least once every four calendar quarters, according to the performance specifications for continuous monitoring systems under 40 CFR 60 Appendix B to Part 60.**

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, and the Energy Commission to verify the continuous monitoring system is properly installed and operational. Emissions data generated by the CEMS system shall be submitted to the CPM and APCO as part of the Quarterly Operation Reports (**AQ-22**). The RATA test results shall be provided along with the annual source test report as required under **AQ-8**.

AQ-20 The Colusa County APCD shall have ~~remote~~ **real-time** access to the ~~data logger~~ **CEM data** at the facility to enable District staff to monitor ~~real-time~~ **and enforce compliance with these permit conditions** emissions as recorded by the CEMs. **The format and content of the data display shall be approved by the District.**

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, and the Energy Commission to confirm remote access to CEMS data is accessible remotely by Colusa County Air Pollution Control District.

AQ-22 ~~Quarterly reports of CEM and process data, including startup information, shall be submitted to the District within 30 days after the end of each quarter. Format of the data submission will be determined by the District and may include both electronic spreadsheet and hard copy files.~~**The project owner shall submit quarterly reports of the facility CEMSand process data (including fuel use for each combustion equipment unit), including startup information, to the District within 30 days after the end of each quarter. Format of the data submission will be determined by the District and includes both electronic and hard copy files.**

The monitoring report shall include, at a minimum:

a. **A report for each deviation from permit requirements that occurred during the reporting period, including emergency events. Project owner shall use district approved forms to report each deviation from permit requirement;**
b. **Results of any emission testing done during the reporting period; and**
c. **A Certification Report form (Form 3.17-J1), which includes a certification regarding the truth, accuracy, and completeness of the report from the responsible official.**

An annual report shall also be submitted for the CGS facility including: total emissions for all pollutants for each combustion unit and the entire facility, total operating hours for each combustion unit, numbers and types of startups and shutdowns for each CTG, total fuel used for each

combustion unit, results of the monthly sulfur content tests, and total ammonia used. Format of the data submission will be determined by the District and includes both electronic and hard copy files.

Verification: The project owner shall submit to the CPM and APCO the CEMS audits demonstrating compliance with this condition in Quarterly Operation Reports in **AQ-22** and for the annual report to be submitted as part of the 4th Quarter Operation Report.

AQ-25 The total emissions from the CTGs and HRSGs shall not exceed those established below for hourly and daily operations.

Maximum Emissions Both Turbines (lbs)		
Pollutant	**1-Hour Emissions**	**24-Hour Emissions**
NOx	666.60	2,994.60
CO	967.00	7,659.00
VOC	55.40	630.60
PM10	27.00	648.00
SO_2	14.80	355.20

The following table shows emission limits for each GE 7FA gas turbine during startup and shutdown operations. Only one gas turbine may be started at a time.

Time and Emissions During Startup and Shutdown Operations								
	Cold Startup		Warm Startup		Hot Startup		Shutdown	
	270 Minutes		180 Minutes		90 Minutes		30 Minutes	
Pollutant	Max lb/hour	Total lb/270 min	Max lb/hour	Total lb/180 min	Max lb/hour	Total lb/90 min	Max lb/hour	Total lb/30 min
NO_X	333.3	779.1	249.9	456.2	152.0	259.9	115.0	115.0
CO	429.6	1,355.6	373.6	790.5	370.3	679.6	483.5	483.5
VOC	27.7	106.7	27.7	47.4	27.7	38.0	23.9	23.9
PM_{10}	12.0	48.8	12.0	30.8	12.0	12.8	6.0	6.0
SO_2	0.4	1.8	0.4	1.2	0.4	0.6	0.2	0.2

Verification: The project owner shall submit to the CPM and APCO CTG and HRSG emissions data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-22**).

AQ-30 Equipment located at the Colusa Generating Station (CGS) facility, including the gas turbines, shall not discharge air contaminants into the atmosphere for a period or periods aggregating more than three (3) minutes in any one hour which is as dark or darker than Ringlemann No. 2 (40% opacity).

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

AQ-31 Particulate emissions from fuel burning equipment, including the gas turbines, shall not exceed 0.30 grains per cubic foot of dry gas calculated to 12 percent CO_2 at standard conditions.

Verification: Compliance with AQ-10 and AQ-30 demonstrates compliance with this condition, no other verification necessary.

AQ-32 The emissions of sulfur compounds, calculated as sulfur dioxide (SO_2), from fuel burning equipment, including the gas turbines, shall not exceed 0.2 percent by volume.

Verification: The project owner shall compile the required data on the sulfur content of the natural gas and submit the information to the CPM and the APCO in the Quarterly Operation Reports (AQ-22).

AQ-33 Emergency event

a. **Within two working days of the emergency event, the project owner shall provide the APCO, via phone, written statement, fax or email the following information:**
    1. **A description of the emergency;**
    2. **Estimated duration of the emergency; and**
    3. **Any mitigating or corrective actions taken.**
b. **Within two weeks of an emergency event, project owner shall submit to the CPMand District a properly signed, contemporaneous log or other relevant evidence which demonstrates that:**
    1. **An emergency occurred;**
    2. **The cause(s) of the emergency can be identified;**
    3. **The facility was being properly operated at the time of the emergency; and**
    4. **All steps were taken to minimize the emissions resulting from the emergency.**
c. **The APCO and CPM shall be notified when the condition causing the emergency event has been corrected and the equipment is again in operation.**
d. **A report for each emergency event shall be submitted to the APCO and CPM as part of project owner's quarterly monitoring report.**
e. **An emergency event is any situation arising from a sudden and reasonably unforeseeable event beyond the control of project owner which causes the exceedance of a technology-based emission limitation. An emergency event constitutes an affirmative defense to an action brought for non-compliance with technology-based emission limitations if the conditions in AQ-33b are met.**

Verification: The project owner shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM and the APCO as part of the Quarterly Operation Reports (AQ-22).

AQ-34 The project owner shall report any deviation from permit requirements in these conditions of certification, other than emergency events, to the APCO and CPM, via phone, fax or email within 96 hours. A report for each deviation from permit requirement shall be prepared by the project owner within two weeks after the initial detection of the deviation. Unless requested earlier by the APCO, these reports shall be submitted to the APCO as part of the project owner's quarterly monitoring report.

Verification: The project owner shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM and the APCO as part of the Quarterly Operation Reports (AQ-22).

AQ-35 The project owner shall submit compliance certification reports to the CPM, U.S. EPA and the APCO every twelve months. The report shall be submitted every February 1. The project owner shall use District approved forms for the compliance certification and shall also include a written statement from the responsible official which certifies the truth, accuracy, and completeness of the report.

Verification: The project owner shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM and the APCO as part of the 4th Quarter Operations Report of AQ-22.

AQ-36 No annual testing requirement is specified for the sulfur dioxide limits specified in Conditions of Certification AQ-25 unless a test is requested by the APCO. All fuel burning equipment at the facility is expected to be in compliance with those limits due to being fired on CPUC regulated natural gas. At the request of the APCO, the project owner shall provide results of testing done to determine the sulfur content of the natural gas used as fuel at the facility.

Verification: The project owner shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM when testing is requested by the APCO.

AQ-37 Records of all CEM and support information shall include the following: 1) date, place and time of measurement or monitoring equipment maintenance activity; 2) operating conditions at the time of measurement or monitoring equipment maintenance activity; 3) date, place, name of company or entity that performed the measurement or monitoring equipment maintenance activity and the methods used; and 4) results of the measurement or monitoring equipment maintenance. The CEM and support information shall be retained for at least five years from date of collection of the measurements.

Verification: The CEM and support information shall be retained for at least five years from date of collection of the measurements.

AQ-38 The annual emission limits specified in Condition AQ-26 shall be based on a 12-month rolling average. The daily emission limits specified in condition AQ-25 shall be based on a 24-hour rolling average.

Verification: The project owner shall submit to the CPM and APCO plant emissions data demonstrating compliance with this condition as part of the Quarterly Operation Reports (AQ-22).

AQ-39 Compliance with the NOx, CO, VOC and PM_{10} emission limits specified in Conditions of Certification AQ-14, AQ-15, AQ-16 AQ-17, AQ-25 and AQ-26 shall be determined based on emissions source tests and the CEMs system.

Verification: The project owner shall submit to the CPM and APCO plant emissions data demonstrating compliance with this condition as part of the Quarterly Operation Reports (AQ-22).

AQ-40 When conducting the source test required in Conditions of Certification AQ-7 and AQ-8, Method 20 (or subsequent or approved alternative method) shall be used to determine the nitrogen oxides, and oxygen concentrations. The NOx emissions shall be determined at a point within plus or minus 25 percent of 100 percent of peak load.

Verification: The project owner shall provide a source test plan to the CPM and District for approval 45 days prior to testing. The project owner shall notify the CPM and the District 10 days prior to any compliance source test.

AQ-41 The zero (or low-level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts for the continuous monitoring system shall be checked at least once daily. The zero and span must, as a minimum, be adjusted whenever either the 24-hour zero drift or 24-hour span drift exceeds two times the limits of the applicable performance specifications in 40 CFR 60 Appendix B to Part 60 of the Code of Federal Regulations. The system must allow the amount of excess zero and span to be recorded and quantified whenever specified.

Verification: The project owner shall make the site available to representatives of the District, ARB, and the Energy Commission for inspection, including any records required to be maintained in connection with the emissions sources.

AQ-42 Except for CEM system breakdowns, repairs, calibration checks, and zero and span adjustments, the continuous monitoring system shall be in continuous operation and shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

Verification: The project owner shall make the site available to representatives of the District, ARB, and the Energy Commission for inspection, including securing samples of emissions or any records required to be maintained in connection with the emissions sources.

AQ-43 The CEM shall reduce all data to 1-hour averages which shall be computed from four or more data points equally spaced over each 1-hour period. Data recorded during periods of CEM breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages.

Verification: The project owner shall make the site available to representatives of the District, ARB, and the Energy Commission for inspection, including securing samples of emissions or any records required to be maintained in connection with the emissions sources.

AQ-44 The project owner shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the General Electric gas turbines; any malfunction of the air pollution control equipment; or any periods during which the continuous monitoring system is inoperative.[3]

Verification: The project owner shall make the site available to representatives of the District, ARB, and the Energy Commission for inspection, including securing samples of emissions or any records required to be maintained in connection with the emissions sources.

AQ-45 The project owner shall maintain a file of all measurements, including CEMS, monitoring device, and performance testing measurements; all CEMS performance evaluations; all CEMS or monitoring device calibration checks; and adjustments and maintenance performed on these systems or devices recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

Verification: All files shall be retained for at least five years following the date of such measurements, maintenance, reports, and records. The project owner shall make the site available for inspection by representatives of the District, ARB, and the Energy Commission.

[3] Title V Permit to Operate Condition 29.

REFERENCES

ARB 2015, California Air Resources Board, Air Designation Maps available on ARB website. http://www.arb.ca.gov/desig/adm/adm.htm. Accessed August 2015.

CCAPCD 2014 (Colusa County Air Pollution Control District). Title V Operating Permit, Permit Number 21006-0259, dated September 1, 2014 received by PG&E on October 24, 2014, docketed with the Commission on October 30, 2014, TN 203288.

CEC 2007 (California Energy Commission). Final Staff Assessment Colusa Generating Station (06-AFC-9). November 2007.

CEC 2008. Final Commission Decision Colusa Generating Station (06-AFC-9). April 2008.

CEC 2009. Order Approving Colusa Petition to Amend, TN #52443, docketed July 15, 2009.

PG&E 2015 (Pacific Gas and Electric Company). Colusa Generating Station (06-AFC-09) Petition to Amend. TN# 205524, docketed July 24, 2015.

Attachment A

For convenience, staff has provided a clean version of all the conditions, existing and those reflecting the proposed changes that would become applicable to CGS, which would apply to this facility assuming the Energy Commission adopts the proposed amendment. References to the CPM refer to the Energy Commission's Compliance Project Manager (CPM).

COLUSA GENERATING STATION AIR QUALITY CONDITIONS OF CERTIFICATION

AQ-SC1 Air Quality Construction Mitigation Manager (AQCMM): The project owner shall designate and retain an on-site AQCMM who shall be responsible for directing and documenting compliance with conditions **AQ-SC3, AQ-SC4,** and **AQ-SC5** for the entire project site and linear facility construction. The on-site AQCMM may delegate responsibilities to one or more AQCMM Delegates. The AQCMM and AQCMM Delegates shall have full access to all areas of construction on the project site and linear facilities and shall have the authority to stop any or all construction activities as warranted by applicable construction mitigation conditions. The AQCMM and AQCMM Delegates may have other responsibilities in addition to those described in this condition.

The AQCMM shall not be terminated without written consent of the 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, resume, qualifications, and contact information for the on-site AQCMM and all AQCMM Delegates. The AQCMM and all Delegates must be approved by the CPM before the start of ground disturbance.

AQ-SC2 Air Quality Construction Mitigation Plan (AQCMP): The project owner shall provide an AQCMP, for approval, which details the steps that will be taken and the reporting requirements necessary to ensure compliance with conditions **AQ-SC3, AQ-SC4,** and **AQ-SC5**.

Verification: At least 60 days prior to the start of any ground disturbance, the project owner shall submit the AQCMP to the CPM for approval. The CPM will notify the project owner of any necessary modifications to the plan within 30 days from the date of receipt. The AQCMP must be approved by the CPM before the start of ground disturbance.

AQ-SC3 Construction Fugitive Dust Control: The AQCMM shall submit documentation to the CPM in each Monthly Compliance Report (MCR) that demonstrates compliance with the following mitigation measures for the purposes of preventing all fugitive dust plumes from leaving the project site and linear facility routes. Any deviation from the following mitigation measures shall require prior CPM notification and approval.

a) Areas to be excavated shall be thoroughly pre-wetted prior to excavation.

b) All unpaved roads and disturbed areas in the project and linear construction sites shall be watered as frequently as necessary to comply

with the dust mitigation objectives of **AQ-SC4**. The frequency of watering may be reduced or eliminated during periods of precipitation.

c) No vehicle shall exceed 10 miles per hour within the construction site.

d) The construction site entrances shall be posted with visible speed limit signs.

e) All construction equipment vehicle tires shall be inspected and washed as necessary to be cleaned free of dirt prior to entering paved roadways.

f) Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station.

g) All unpaved exits from the construction site shall be graveled or treated to prevent track-out to public roadways.

h) All construction vehicles shall enter the construction site through the treated entrance roadways, unless an alternative route has been submitted to and approved by the CPM.

i) Construction areas adjacent to any paved roadway shall be provided with sandbags or other measures as specified in the Storm Water Pollution Prevention Plan (SWPPP) to prevent runoff to roadways.

j) All paved roads within the construction site shall be swept at least twice daily (or less during periods of precipitation) on days when construction activity occurs to prevent the accumulation of dirt and debris.

k) At least the first 500 feet of any public roadway exiting from the construction site shall be swept at least twice daily (or less during periods of precipitation) on days when construction activity occurs or on any other day when dirt or runoff from the construction site is visible on the public roadways.

l) On-site paved roads shall be swept at least once daily after the evening peak period.

m) All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered or shall be treated with appropriate dust suppressant compounds.

n) All vehicles that are used to transport solid bulk material on public roadways and that have the 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 two feet of freeboard.

o) Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) shall be used on all construction areas that may be disturbed. Any windbreaks installed to comply with this condition shall remain in place until the soil is stabilized or permanently covered with vegetation.

p) Ground cover will be replaced in disturbed areas as soon as possible.

Verification: The project owner shall include in the MCR (1) a summary of all actions taken to maintain compliance with this condition, (2) copies of any complaints filed with the air district in relation to project construction, and (3) any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC4 Dust Plume Response Requirement: The AQCMM or an AQCMM Delegate shall monitor all construction activities for visible dust plumes. Observations of visible dust plumes that have the potential to be transported (1) off the project site or (2) 200 feet beyond the centerline of the construction of linear facilities or (3) within 100 feet upwind of any regularly occupied structures not owned by the project owner indicate that existing mitigation measures are not resulting in effective mitigation. The AQCMM or Delegate shall implement the following procedures for additional mitigation measures in the event that such visible dust plumes are observed:

Step 1: The AQCMM or Delegate shall direct more intensive application of the existing mitigation methods within 15 minutes of making such a determination.

Step 2: The AQCMM or Delegate shall direct implementation of additional methods of dust suppression if Step 1 specified above fails to result in adequate mitigation within 30 minutes of the original determination.

Step 3: The AQCMM or Delegate shall direct a temporary shutdown of the activity causing the emissions if Step 2 specified above fails to result in effective mitigation within one hour of the original determination. The activity shall not restart until the AQCMM or Delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the shutdown source. The owner/operator may appeal to the CPM any directive from the AQCMM or Delegate to shut down an activity, provided that the shutdown shall go into effect within one hour of the original determination, unless overruled by the CPM before that time.

Verification: The AQCMP shall include a section detailing how the additional mitigation measures will be accomplished within the time limits specified.

AQ-SC5 Diesel-Fueled Engines Control: The AQCMM shall submit to the CPM, in the MCR, a construction mitigation report that demonstrates compliance with the following mitigation measures for the purposes of controlling diesel construction-related emissions. Any deviation from the following mitigation measures shall require prior CPM notification and approval.

a) 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.

b) All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM showing that the engine meets the conditions set forth herein.

c) All construction diesel engines, which have a rating of 100 hp or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in Title 13, California Code of Regulations Section 2423(b)(1) unless certified by the on-site AQCMM that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a Tier 1 engine. In the event a Tier 1 engine is not available for any off- road engine larger than 100 hp, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is "not practical" if, among other reasons:

   (1) There is no available soot filter that has been certified by either the California Air Resources Board or U.S. Environmental Protection Agency for the engine in question; or

   (2) The construction equipment is intended to be on-site for 10 days or less.

   (3) The CPM may grant relief from this requirement if the AQCMM can demonstrate that he/she has made a good faith effort to comply with this requirement and that compliance is not possible.

d) The use of a soot filter may be terminated immediately if one of the following conditions exists, provided that the CPM is informed within 10 working days of the termination:

   (1) The use of the soot filter is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance and/or reduced power output due to an excessive increase in backpressure.

   (2) The soot filter is causing or is reasonably expected to cause significant engine damage.

   (3) The soot filter is causing or is reasonably expected to cause a significant risk to workers or the public.

   (4) Any other seriously detrimental cause which has the approval of the CPM prior to the termination being implemented.

e) All heavy earthmoving equipment and heavy duty construction- related trucks with engines meeting the requirements of (c) above shall be properly maintained and the engines tuned to the engine manufacturer's specifications.

f) All diesel heavy construction equipment shall not remain running at idle

for more than five minutes, to the extent practical.

g) Construction equipment will employ electric motors when feasible.

Verification: The project owner shall include in the MCR (1) a summary of all actions taken to maintain compliance with this condition, (2) copies of all diesel fuel purchase records, (3) a list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained, and (4) any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC6 The project owner shall submit to the CPM for review and approval any modification proposed by the project owner to any project air permit. The project owner shall submit to the CPM any modification to any permit proposed by the District or U.S. EPA and any revised permit issued by the District or U.S. EPA, for the project.

Verification: The project owner shall submit any proposed air permit modification to the CPM within five working days of its submittal either by 1) the project owner to an agency, or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified air permits to the CPM within 15 days of receipt.

AQ-SC7 The project shall surrender the emission offset credits listed in Appendix A or a modified list, as allowed by this condition, at the time and in the quantities required by condition **AQ-27** and herein. The project owner may request CPM approval for any substitutions or modification of credits listed in Appendix A. 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. In addition to the offset requirements of stipulated in **AQ-27**, the applicant will provide sufficient VOC and SO_2 ERCs to mitigate the VOC and SO_2 emissions on a 1:1 basis annually.

Revisions to the offset package that require review and approval by the CPM include revisions in the amount of stationary source ERCs that are stipulated to be surrendered, whereas currently stipulated all stationary source ERCs for NOx, PM10 and SO_2 as listed in Appendix A will be surrendered and all VOC ERCs needed to offset the project will come from the listed stationary source VOC ERCs. Additionally, any increase in the amount of VOC for NOx interpollutant offsets must be approved with an updated interpollutant offset ratio analysis.

Verification: The project owner shall submit to the CPM a list of the ERC certificates and quantities surrendered to the District within 30 days of their surrender. The project owner shall request any changes to the ERC certificates to be surrendered at least 60 days prior to their surrender date as required in condition **AQ-27**. If the CPM, in consultation with the District, 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-SC8 Until the California Global Warming Solutions Act of 2006 (AB32) is implemented, the project owner shall either participate in a GHG registry approved by the CPM, or report on an annual basis to the CPM the quantity of greenhouse gases (GHG) emitted as a direct result of facility electricity production.

The project owner shall maintain a record of fuels 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) in combustion turbines, (2) HRSGs (if applicable) or auxiliary boiler (if applicable), (4) internal combustion engines, (4) flares, and/or (5) for the purpose of 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 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	Protocol: EPA Method 18 (VOC measured as CH_4)

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 transformers. 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 PFCs and HFCs that are 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 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 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 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-SC9 The project owner shall submit to the CPM Quarterly Operation Reports, following the end of each calendar quarter, as also required under Condition of Certification **AQ-22**, that include operational and emissions information as necessary to demonstrate compliance with the Conditions of Certification herein. The Quarterly Operation Report will specifically note or highlight incidences of noncompliance.

Verification: The project owner shall submit the Quarterly Operation Reports to the CPM and APCO no later than 30 days following the end of each calendar quarter.

AQ-SC10 The wet surface air cooler shall have a mist eliminator with a manufacturer guaranteed mist reduction rate of 0.005% or less of the water recirculation rate.

Verification: The project owner shall provide the CPM a copy of the manufacturer guarantee for the mist eliminator 30 days prior to installation of the wet surface air cooler.

AQ-SC11 The wet surface air cooler spray water shall be tested for total dissolved solids and that data shall be used to determine and report the particulate matter emissions from the wet surface air cooler. The wet surface air cooler spray water shall be tested at least once annually during the anticipated summer operation peak period (July through September).

Verification: The project owner shall provide the water quality test results and the wet surface air cooler particulate (PM10/PM2.5) emissions estimates to the CPM as part of the fourth quarter's quarterly operational report (**AQ-SC9**).

DISTRICT FINAL DETERMINATION OF COMPLIANCE CONDITIONS (COC2007H, CEC 2007P)

AQ-1 All facility operating Staff shall be advised of and familiar with these permit conditions.

Verification: The project owner shall submit to the CPM and APCO signed records of facility operating Staff indicating review of permit conditions at least 30 days prior to commencement of operation and shall maintain this training and records documenting this training at the site for inspection.

AQ-2 The "Right of Entry," as provided by the California Health and Safety Code Section 41510 of Division 26, shall apply at all times.

Verification: The project owner shall make the site available to representatives of the District, ARB, and the Energy Commission for inspection, including securing samples of emissions or any records required to be maintained in connection with the emissions sources.

AQ-3 In the case of shutdown or restart of air pollution control equipment for necessary scheduled maintenance, the intent to shut down such equipment shall be reported to the Air Pollution Control Officer at least 24 hours prior to the planned shutdown. Such notification does not exempt the facility from complying with all permit limits and requirements.

Verification: The project owner shall submit to the CPM and APCO notification of scheduled maintenance of air pollution control equipment at least 24 hours prior to any planned shutdowns.

AQ-4 Upset/Breakdown Condition

a. If any upset or breakdown occurs with equipment under permit in such a manner that may cause excess emissions of air contaminants, the APCO shall be notified of such failure or breakdown within twenty-four (24) hours or by 9:00 a.m. by the following working day.

b. The breakdown shall be logged, investigated and handled to its final disposition.

c. The project owner shall also submit a written statement of full disclosure of the upset/breakdown to the District within 72 hours. The report shall contain the date and time of the event and also the following information:

    1. Duration of excessive emissions;
    2. Estimate of quantity of emissions;
    3. Statement of the cause of the occurrence; and
    4. Corrective measures to be taken to prevent a recurrence.

d. A breakdown condition is an unforeseeable failure or malfunction of any air pollution control equipment or related operating equipment which causes a violation of any emission limitation or restriction prescribed by the District's rules and regulations, or by state law, or similar failure of any required in stack continuous monitoring equipment.

    In the case of shut-down or re-start of air pollution control equipment for necessary scheduled maintenance, the intent to shut down such equipment shall be reported to the Colusa County Air Pollution Control District (District) Air Pollution Control Officer (APCO) at least twenty-four (24) hours prior to the planned shutdown. Such notification does not exempt the facility from complying with all permit limits and requirements.

Verification: The project owner shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM along with the District.

AQ-5 At all times, including periods of startup, shutdown, and malfunction, project owner shall, to the extent practicable, maintain and operate all fuel burning equipment, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Fugitive emissions, including dust and odors, shall be controlled at all times such that a nuisance is not created at any point beyond the facility's property lines.

Verification: The project owner will document any complaints that it has received from the public in the Quarterly Operation Reports (**AQ-22**). The project owner shall make the site available for inspection by representatives of the District, ARB, and the Energy Commission.

AQ-6 A person shall be designated to oversee the fugitive dust control program described in the application and this document. Entry roads to the proposed facility site will be paved prior to commencing construction. During construction, the people on site shall access real- time weather information from the Western Weather Group to determine the prevailing local wind speed. If wind gusts at the Maxwell weather station exceed 15 mph, construction personnel shall increase the frequency of watering the exposed soil. All of the mitigation measures will be implemented.

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

AQ-7 The placement of the source testing ports shall be as specified in 40CFR Part 60, Appendix A, Method 1. A source test protocol shall be submitted to the District for approval the Air Pollution Control Officer (APCO), at least 45 days prior to conducting the annual source tests. The District shall be notified at least 10 days prior to actual source testing.

Verification: The project owner shall supply diagrams of the proposed source testing port design and location for approval at least 30 days before erecting the HRSG stacks. The project owner shall provide a source test plan to the CPM and District for approval 45 days prior to testing. The project owner shall notify the CPM and the District 10 days prior to any compliance source test.

AQ-8 Stack gas testing, using EPA, ARB, or other APCO approved methods shall be required on an annual basis for NOx, VOC, and CO on the HRSG stacks. The HRSG stacks shall also be tested for SOx and PMI0 emissions during the first year and if requested by the APCO, in subsequent years. The natural gas water bath heater shall be tested for NOx, SOx, VOC, CO, and PM10 during the first year and thereafter only as requested by the APCO. The results and field data collected during source tests shall be submitted to the CPM and the District within 60 days of testing.

Verification: The results and field data collected during source tests shall be submitted to the CPM and the District within 60 days of testing.

AQ-9 Annual testing of the HRSG stacks shall include quantification of formaldehyde and ammonia (NH_3) emissions for compliance with permit limits. The facility

owner/operator shall verify, by continuous recording, the ammonia injection rate to the system. The ammonia source test shall be conducted over the expected operating range of the turbine (including, but not limited to 50%, 75%, and 100% load) to establish the range of ammonia injection rates necessary to achieve NOx emission reductions while maintaining the ammonia slip levels. The source test shall also determine the correlation between the heat input rates of each gas turbine and ammonia mass emissions.

Verification: The results and field data collected during source tests shall be submitted to the CPM and the District within 60 days of testing. The proposed ammonia injection/emission rate correlation will be provided to the District and CPM for approval with the ammonia source test report.

AQ-10 Stationary fuel burning equipment including, the gas turbines, duct burners, and natural gas water bath heater shall be fired exclusively on California Public Utility Commission (CPUC) regulated pipeline quality natural gas.

Verification: The project owner shall submit information on the quality and type of fuel used for the gas turbines, duct burners, and natural gas water bath heater to the CPM and the APCO in the Quarterly Operation Reports (**AQ-22**).

AQ-11 The annual average sulfur content in the natural gas used at the facility shall be less than or equal to 0.3 grains per 100 standard cubic feet (SCF). Monthly testing, at the site, using approved methods (i.e., EPA 19 and ASTM D-3246) is required to determine the sulfur content of the natural gas.

Verification: The project owner shall compile the required data on the sulfur content of the natural gas and submit the information to the CPM and the APCO in the Quarterly Operation Reports (**AQ-22**).

AQ-12 The sulfur content limit in diesel fuel used in the construction equipment shall be no more than 15 ppm.

Verification: The project owner shall compile and submit the required data on the sulfur content of the diesel fuel as required in staff condition **AQ-SC5**.

AQ-13 All applicable federal standards and test procedures of Subpart KKKK -- Standards of Performance for Stationary Combustion Turbines shall be met.

The project owner shall not cause to be discharged into the atmosphere from the General Electric gas turbines, any gases which contain nitrogen oxides (NOx) in excess of 15 parts per million by volume (ppmv) when the unit is operating above 75% of peak load and 96 ppmv when operating below 75% of peak load. All concentrations are to be calculated on a 4 hour rolling average and corrected to 15 percent oxygen.

The Project Owner shall not burn in the General Electric gas turbines any fuel which contains total potential sulfur emissions in excess of 0.06 pounds SO2 per million Btu (lb SO2/MMBtu) heat input.

When conducting the source test required in Condition of Certification **AQ-8**, Method 20 (or subsequent or approved alternative method) shall be used to determine the nitrogen oxides, and oxygen concentrations. The NOx emissions shall be determined at a point within plus or minus 25 percent of 100 percent of peak load.

Upon Energy Commission and District request, the project owner shall use ASTM D 1072, or alternatively D3246, D4084, D4486, D4810, D6228, D6667, or gas processors association Standard 2377 (or subsequent or approved alternative method) to determine fuel sulfur levels for compliance with the SOx emission limits specified in Conditions of Certification **AQ-14**, **AQ-15**, **AQ-18**, **AQ-25**, **AQ-26**, and **AQ-27**.

The project owner shall submit an excess emissions and monitoring systems performance report and/or a summary report to the Energy Commission, District and the EPA semiannually. This report shall contain the information specified in 40 CFR 60 Subpart A - General Provisions, Section 60.7(c) and (d) and shall be postmarked by the 30th day following the end of each calendar quarter.

Verification: The project owner shall provide copies of all correspondence with U.S.EPA regarding compliance with Subpart KKKK provisions to the District and CPM in the Quarterly Operation Reports (**AQ-22**), and shall integrate required testing procedures into the facility source testing plan (**AQ-8**).

AQ-14 The CTGs shall meet a VOC limit of 2.0 ppmvd with duct burner firing and 1.38 ppmvd without duct burner firing @ 15% O_2 averaged over one hour. Maximum hourly steady state emission limits for each CTG are:

Pounds VOC with Duct	Pounds VOC without Duct
7.2	3.4

Verification: The project owner shall submit to the CPM and APCO CTG source test emissions data demonstrating compliance with this condition as required by condition **AQ-8** and shall provide operating data that establishes ongoing compliance with this condition using a determined relationship with CO emissions, previously approved by the CPM and APCO using source test data, as part of the Quarterly Operation Reports (**AQ-22**).

AQ-15 The CTGs shall meet a NOx limit of 2.0 ppmvd @ 15% O_2 averaged over one hour except during commissioning. Maximum hourly steady state emission limits for each CTG are:

Pounds NOx with Duct Firing	Pounds NOx without Duct
20.7	15.3

Verification: The project owner shall submit to the CPM and APCO CTG continuous emissions monitoring system data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-22**).

AQ-16 The CTGs shall meet a CO limit of 3.0 ppmvd @ 15% O_2 over a three- hour rolling average except during commissioning. Maximum hourly steady state emission limits for each CTG are:

Pounds CO with Duct Firing	Pounds CO without Duct Firing
18.9	14.0

Verification: The project owner shall submit to the CPM and APCO CTG continuous emissions monitoring system data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-22**).

AQ-17 The natural gas water bath heater shall have a low NOx burner and shall meet a NOx limit of 30.0 ppmvd @ 3% O_2 averaged over one hour.

Verification: The project owner shall submit to the CPM and APCO natural gas water bath heater source test emissions data demonstrating compliance with this condition as required in condition **AQ-8** and shall provide confirmation of normal operations of the heater as part of the Quarterly Operation Reports (**AQ-22**).

AQ-18 Ammonia slip shall be limited to 5.0 ppmvd @ 15% O_2 over one hour. Formaldehyde emissions will be limited to 0.917 lbs per million standard cubic feet (MMscf) of natural gas. Maximum hourly steady state emission limits for each CTG are:

Pounds NH_3 with Duct Firing	Pounds NH_3 without Duct
19.2	14.2

Verification: The project owner shall submit to the CPM and APCO CTG emissions data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-22**). The project owner shall provide for approval of the CPM and APCO a calculation method to determine the ammonia slip emissions, using source test data, based on the NOx concentration and the ammonia injection rate; and this calculation shall be revised for approval as necessary after each source test performed under **AQ-9**.

AQ-19 Continuous emission monitoring systems (CEMS) shall be installed to sample, analyze, and record NOx, CO, and O_2 concentration in the exhaust gas of both HRSG stacks. This system will generate reports of emissions data in accordance with permit requirements and will send alarm signals to the plant distributed control system (DCS) control room when the level of emissions approaches or exceeds pre-selected limits. A Relative Accuracy Test Audit (RATA) must be conducted on the CEMS at least once every four calendar quarters, according to the performance specifications for continuous monitoring systems under 40 CFR 60, Appendix B to Part 60

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, and the Energy Commission to verify the continuous monitoring system is properly installed and operational. Emissions data generated by the CEMS system shall be submitted to the CPM and APCO as part of the Quarterly Operation Reports (**AQ-22**). The RATA test results shall be provided along with the annual source test report as required under **AQ-8**.

AQ-20 The Colusa County APCD shall have real-time access to the CEM data at the facility to enable District staff to monitor and enforce compliance with these permit conditions emissions as recorded by the CEMs. The format and content of the data display shall be approved by the District.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, and the Energy Commission to confirm remote access to CEMS data is accessible remotely by Colusa County Air Pollution Control District.

AQ-21 The CEMs shall be installed, calibrated, and operational prior to the first firing of the gas turbines. The commissioning phase of the turbines and heat recovery steam generators without abatement of emissions shall not exceed 500 total hours. All reasonable efforts will be made to shorten the length of time of the commissioning phase. Only one gas turbine may be commissioned at a time. Emissions from the commissioning phase of the turbines and heat recovery steam generators shall accrue toward the quarterly and annual emission limits specified in these conditions.

Verification: The project owner shall provide notification to the District and the CPM of the anticipated dates for installation, calibration, and testing for the CEMS at least 10 days prior to installation. The project owner shall provide a report to the District and CPM for approval demonstrating compliance with CEMS calibration requirements prior to turbine first fire. The project owner shall provide monthly commissioning status reports, which include hours of operation without abatement and associated emissions data.

AQ-22 The project owner shall submit quarterly reports of the facility CEMS and process data (including fuel use for each combustion equipment unit), including startup information, to the District within 30 days after the end of each quarter. Format of the data submission will be determined by the District and includes both electronic and hard copy files.

The monitoring report shall include, at a minimum:

a. A report for each deviation from permit requirements that occurred during the reporting period, including emergency events. PG&E shall use district approved forms to report each deviation from permit requirement;

b. Results of any emission testing done during the reporting period; and

c. A Certification Report form (Form 3.17-J1), which includes a certification regarding the truth, accuracy, and completeness of the report from the responsible official.

An annual report shall also be submitted for the CGS facility including: total emissions for all pollutants for each combustion unit and the entire facility, total operating hours for each combustion unit, numbers and types of startups and shutdowns for each CTG, total fuel used for each combustion unit, results of the monthly sulfur content tests, and total ammonia used. Format of the data submission will be determined by the District and includes both electronic and hard copy files.

Verification: The project owner shall submit to the CPM and APCO the CEMS audits demonstrating compliance with this condition in Quarterly Operation Reports in **AQ-22** and for the annual report to be submitted as part of the 4th Quarter Operation Report.

AQ-23 The emissions from the natural gas water bath heater shall not exceed the hourly limits established in the table below

One-Hour Maximum Emissions (lbs)		
Source	**Bath Heater**	
NOx	0.39	
CO	0.79	
VOC	0.03	
PM10	0.03	
SO_2	0.03	

Verification: The project owner shall submit to the CPM and APCO for approval the natural gas water heater selected manufacturer emissions data demonstrating compliance with this condition at least 30 days prior to installation.

Energy Commission Order No. 09-715-2[4]

AQ-24 Deleted

AQ-25 The total emissions from the CTGs and HRSGs shall not exceed those established below for hourly and daily operations.

Maximum Emissions Both Turbines (lbs)		
Pollutant	**1-Hour Emissions**	**24-Hour Emissions**
NOx	666.60	2,994.60
CO	967.00	7,659.00
VOC	55.40	630.60
PM10	27.00	648.00
SO_2	14.80	355.20

The following table shows emission limits for each GE 7FA gas turbine during startup and shutdown operations. Only one gas turbine may be started at a time.

Time and Emissions During Startup and Shutdown Operations								
	Cold Startup		Warm Startup		Hot Startup		Shutdown	
	270 Minutes		180 Minutes		90 Minutes		30 Minutes	
Pollutant	Max lb/hour	Total lb/270 min	Max lb/hour	Total lb/180 min	Max lb/hour	Total lb/90 min	Max lb/hour	Total lb/30 min
NO_X	333.3	779.1	249.9	456.2	152.0	259.9	115.0	115.0
CO	429.6	1,355.6	373.6	790.5	370.3	679.6	483.5	483.5
VOC	27.7	106.7	27.7	47.4	27.7	38.0	23.9	23.9
PM_{10}	12.0	48.8	12.0	30.8	12.0	12.8	6.0	6.0
SO_2	0.4	1.8	0.4	1.2	0.4	0.6	0.2	0.2

[4] CEC 2009 Order Approving Colusa Petition to Amend, TN #52443, docketed July 16, 2009.

Verification: The project owner shall submit to the CPM and APCO CTG and HRSG emissions data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-22**).

AQ-26 The total emissions from the Colusa Power Plant shall not exceed the limits established below.

Quarterly and Annual Estimated Combustion Emissions from CGS Facility					
Pollutant	1st Quarter Emissions (tons)	2nd Quarter Emissions (tons)	3rd Quarter Emissions (tons)	4th Quarter Emissions (tons)	Annual Emissions (tons)
NOx	45.56	43.58	51.30	44.27	184.70
CO	54.29	52.49	107.15	53.95	267.89
VOCs	12.30	11.63	11.84	11.76	47.54
PM10	25.54	25.78	26.02	26.02	103.36
SO_2	4.07	3.85	3.89	3.89	15.69

Verification: The project owner shall submit to the CPM and APCO plant emissions data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-22**).

AQ-27 Offsets for the Colusa Generating Station power plant shall be in effect prior to operation of the facility and will not be less than the following amounts at any time. The offsets presented in the first table below do not reflect distance factor adjustments, the 1.4:1 VOC:NOx interpollutant ratio, nor the 25 tons per year emission allowance. No less than 5.08 tons of PM10 ERCs per quarter shall be provided prior to start of construction activities to offset construction PM10 emissions.

Emission Offsets by Calendar Quarter (not adjusted)					
Pollutant in tons	**Quarter 1**	**Quarter 2**	**Quarter 3**	**Quarter 4**	**Annual**
Oxides of nitrogen (NO_2)	36.79	35.41	31.36	37.93	141.49
Volatile organic compounds	39.89	39.89	39.89	39.89	159.56
Particulate Matter PM10	30.43	28.33	22.15	31.75	112.66

Emission Offsets by Calendar Quarter (adjusted for distance and interpollutant offset ratio)					
Pollutant in tons	**Quarter 1**	**Quarter 2**	**Quarter 3**	**Quarter 4**	**Annual**
Oxides of nitrogen (NO_2)	26.20	47.01	36.55	53.80	99.83
Volatile organic compounds	26.59	26.59	26.59	26.59	106.36
Particulate Matter PM10	21.22	19.73	15.21	22.20	78.36

Verification: At least 30 days prior to commencing construction, the project owner shall surrender PM10 ERC certificates in the amounts to offset the emissions shown above to the District and provide documentation of that surrender to the CPM and APCO. At least 60 days prior to commencing CTG first fire, the project owner shall surrender the remaining ERC certificates to offset the emissions in the amounts shown above and as required in Condition **AQ-SC7**, to the District and provide documentation of that surrender to the CPM and APCO.

AQ-28 The construction of the facility cannot commence until all construction permits, including the U.S. EPA PSD permit, are obtained. Specified, limited construction activities are allowed prior to issuance of the PSD permit as stated in the USEPA policy document dated December 18, 1978:

Verification: The project owner shall keep proof of the project's District air permit and Energy Commission certification including copies of all permit conditions and conditions of certification on site starting at the commencement of construction through the final decommissioning of the project. The project owner shall make the District's permit conditions and conditions of certification available at the project site to representatives of the District, ARB and the Energy Commission for inspection. The project owner shall provide a copy of the U.S. EPA PSD permit to the CPM once it is available.

AQ-29 Total facility emissions of Hazardous Air Pollutants (HAP) shall not exceed 10 tons per year for any single pollutant except ammonia, formaldehyde, and propylene.

Verification: The project owner shall submit to the CPM and APCO a HAPs emissions estimation plan for approval within one year of initiating operation that will consider integrating both emission source test data and recognized HAPs emission factors for the calculation of HAPs emissions. The project owner shall submit to the CPM and APCO emission estimates using the approved emission estimation plan methodology to demonstrate compliance with this condition as part of the Quarterly Operation Reports (**AQ-22**) fourth quarter report.

AQ-30 Equipment located at the Colusa Generating Station (CGS) facility, including the gas turbines, shall not discharge air contaminants into the atmosphere for a period or periods aggregating more than three (3) minutes in any one hour which is as dark or darker than Ringlemann No. 2 (40% opacity).

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

AQ-31 Particulate emissions from fuel burning equipment, including the gas turbines, shall not exceed 0.30 grains per cubic foot of dry gas calculated to 12 percent CO_2 at standard conditions.

Verification: Compliance with **AQ-10** and **AQ-30** demonstrates compliance with this condition, no other verification necessary.

AQ-32 The emissions of sulfur compounds, calculated as sulfur dioxide (SO_2), from fuel burning equipment, including the gas turbines, shall not exceed 0.2 percent by volume.

Verification: The project owner shall compile the required data on the sulfur content of the natural gas and submit the information to the CPM and the APCO in the Quarterly Operation Reports (**AQ-22**).

AQ-33 Emergency event

a. Within two working days of the emergency event, the project owner shall provide the APCO, via phone, written statement, fax or email the following information:

   1. A description of the emergency;
   2. Estimated duration of the emergency; and
   3. Any mitigating or corrective actions taken.

b. Within two weeks of an emergency event, project owner shall submit to the CPM a properly signed, contemporaneous log or other relevant evidence which demonstrates that:

   1. An emergency occurred;
   2. The cause(s) of the emergency can be identified;
   3. The facility was being properly operated at the time of the emergency; and
   4. All steps were taken to minimize the emissions resulting from the emergency.

c. The APCO and CPM shall be notified when the condition causing the emergency event has been corrected and the equipment is again in operation.

d. A report for each emergency event shall be submitted to the APCO and CPM as part of project owner's quarterly monitoring report.

e. An emergency event is any situation arising from a sudden and reasonably unforeseeable event beyond the control of project owner which causes the exceedance of a technology-based emission limitation. An emergency event constitutes an affirmative defense to an action brought for non-compliance with technology-based emission limitations if the conditions in **AQ-33b** are met.

Verification: The project owner shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM and the APCO as part of the Quarterly Operation Reports (**AQ-22**).

AQ-34 The project owner shall report any deviation from permit requirements in these conditions of certification, other than emergency events, to the APCO and CPM, via phone, fax or email within 96 hours. A report for each deviation from permit requirement shall be prepared by the project owner within two weeks after the initial detection of the deviation. Unless requested earlier by the APCO, these reports shall be submitted to the APCO as part of the project owner's quarterly monitoring report.

Verification: The project owner shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM and the APCO as part of the Quarterly Operation Reports (**AQ-22**).

AQ-35 The project owner shall submit compliance certification reports to the CPM, U.S. EPA and the APCO every twelve months. The report shall be submitted

every February 1. The project owner shall use District approved forms for the compliance certification and shall also include a written statement from the responsible official which certifies the truth, accuracy, and completeness of the report.

Verification: The project owner shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM and the APCO as part of the 4th Quarter Operations Report of **AQ-22**.

AQ-36 No annual testing requirement is specified for the sulfur dioxide limits specified in Conditions of Certification **AQ-25** unless a test is requested by the APCO. All fuel burning equipment at the facility is expected to be in compliance with those limits due to being fired on CPUC regulated natural gas. At the request of the APCO, the project owner shall provide results of testing done to determine the sulfur content of the natural gas used as fuel at the facility.

Verification: The project owner shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM when testing is requested by the APCO.

AQ-37 Records of all CEM and support information shall include the following: 1) date, place and time of measurement or monitoring equipment maintenance activity; 2) operating conditions at the time of measurement or monitoring equipment maintenance activity; 3) date, place, name of company or entity that performed the measurement or monitoring equipment maintenance activity and the methods used; and 4) results of the measurement or monitoring equipment maintenance. The CEM and support information shall be retained for at least five years from date of collection of the measurements.

Verification: The CEM and support information shall be retained for at least five years from date of collection of the measurements.

AQ-38 The annual emission limits specified in Condition **AQ-26** shall be based on a 12-month rolling average. The daily emission limits specified in condition **AQ-25** shall be based on a 24-hour rolling average.

Verification: The project owner shall submit to the CPM and APCO plant emissions data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-22**).

AQ-39 Compliance with the NOx, CO, VOC and PM_{10} emission limits specified in Conditions of Certification **AQ-14**, **AQ-15**, **AQ-16**, **AQ-17**, **AQ-25** and **AQ-26** shall be determined based on emissions source tests and the CEMs system.

Verification: The project owner shall submit to the CPM and APCO plant emissions data demonstrating compliance with this condition as part of the Quarterly Operation Reports (**AQ-22**).

AQ-40 When conducting the source test required in Conditions of Certification **AQ-7** and **AQ-8**, Method 20 (or subsequent or approved alternative method) shall be

used to determine the nitrogen oxides, and oxygen concentrations. The NOx emissions shall be determined at a point within plus or minus 25 percent of 100 percent of peak load.

Verification: The project owner shall provide a source test plan to the CPM and District for approval 45 days prior to testing. The project owner shall notify the CPM and the District 10 days prior to any compliance source test.

AQ-41 The zero (or low-level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts for the continuous monitoring system shall be checked at least once daily. The zero and span must, as a minimum, be adjusted whenever either the 24-hour zero drift or 24-hour span drift exceeds two times the limits of the applicable performance specifications in 40 CFR 60 Appendix B to Part 60 of the Code of Federal Regulations. The system must allow the amount of excess zero and span to be recorded and quantified whenever specified.

Verification: The project owner shall make the site available to representatives of the District, ARB, and the Energy Commission for inspection, including any records required to be maintained in connection with the emissions sources.

AQ-42 Except for CEM system breakdowns, repairs, calibration checks, and zero and span adjustments, the continuous monitoring system shall be in continuous operation and shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

Verification: The project owner shall make the site available to representatives of the District, ARB, and the Energy Commission for inspection, including securing samples of emissions or any records required to be maintained in connection with the emissions sources.

AQ-43 The CEM shall reduce all data to 1-hour averages which shall be computed from four or more data points equally spaced over each 1-hour period. Data recorded during periods of CEM breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages.

Verification: The project owner shall make the site available to representatives of the District, ARB, and the Energy Commission for inspection, including securing samples of emissions or any records required to be maintained in connection with the emissions sources.

AQ-44 The project owner shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the General Electric gas turbines; any malfunction of the air pollution control equipment; or any periods during which the continuous monitoring system is inoperative.[5]

Verification: The project owner shall make the site available to representatives of the District, ARB, and the Energy Commission for inspection, including securing samples of

[5] Title V Permit to Operate Condition 29.

emissions or any records required to be maintained in connection with the emissions sources.

AQ-45 The project owner shall maintain a file of all measurements, including CEMS, monitoring device, and performance testing measurements; all CEMS performance evaluations; CEMS or monitoring device calibration checks; and adjustments and maintenance performed on these systems or devices recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

Verification: All files shall be retained for at least five years following the date of such measurements, maintenance, reports, and records. The project owner shall make the site available for inspection by representatives of the District, ARB, and the Energy Commission.

Appendix A

Emissions Reduction Credits

Condition of Certification AQ-SC7
Required Emission Reduction Credits [a]

ERC Certificate Number and Number Reduction Source Location Distance from Project	Pollutant	Total Q1 (lb)	Total Q2 (lb)	Total Q3 (lb)	Total Q4 (lb)	Annual (lbs)
Stationary Source ERCs						
Highway 70 Industrial Park, LP // Oroville, CA // Butte County [b] (Cert. 08-05-36, 08-05-37, 08-05-39) > 20 < 50 miles	NOx	35,000.0	35,000.0	35,000.0	35,000.0	140,000.0
	VOC	87,500.0	87,500.0	87,500.0	87,500.0	350,000.0
	PM10	33,500.0	33,500.0	33,500.0	33,500.0	134,000.0
	SO_2	0.0	0.0	0.0	0.0	0.0
PGE Credits/Gerber Compressor Station//Gerber, CA//Tehama County (Cert. 01-009) > 20 < 50 miles	NOx	15,995.9	15,995.9	15,995.9	15,995.9	63,983.6
	VOC	0.0	0.0	0.0	0.0	0.0
	PM10	352.2	352.2	352.2	352.2	1,408.8
	SO_2	18.0	18.0	18.0	18.0	72.0
Jack W. Baber // Sierra Mountain Mills, Camptonville, CA // Yuba County [c] (Cert. ERC-9937006-00T) > 50 miles	NOx	420.0	707.0	641.0	501.0	2,269.0
	VOC	199.0	335.0	304.0	238.0	1,076.0
	SO_2	166.0	279.0	254.0	198.0	897.0
Agricultural Burn Cessation ERCs						
Baber Family Trust // Colusa, CA // Colusa County [d] (Cert. 06-01-02-03) < 20 miles						
	SO_2	212.5	171.4	68.6	233.1	685.6
Jack W. Baber and Judith S. Baber // Colusa, CA // Colusa County [d] (Cert. 06-01-02-04) < 20 miles						
	SO_2	508.1	409.7	163.9	557.2	1,638.9
Estate of Jack W. Baber Jr. // Colusa, CA // Colusa County [d] (Cert. 06-01-02-05) < 20 miles						
	SO_2	179.5	144.8	57.9	196.9	579.1
Pixie E. Baber // Colusa, CA // Colusa County [d] (Cert. 06-01-02-05.2) < 20 miles	NOx	809.0	625.5	261.0	887.3	2,582.8
	PM10	980.2	790.5	316.2	1,075.0	3,161.9
	SO_2	171.1	138.0	55.2	187.7	552.0
Jack W. Baber and Judith S. Baber // Colusa, CA // Colusa County [d] (Cert. 06-01-02-06) < 20 miles	NOx	587.8	474.1	189.6	644.7	1,896.2
	VOC	531.3	428.5	171.4	582.7	1,713.9
Jack W. Baber Jr. // Colusa, CA // Colusa County [d] (Cert. 06-01-02-09)	NOx	1,577.2	1,271.9	508.8	1,729.8	5,087.7
	VOC	1,425.5	1,149.6	459.9	1,563.5	4,598.5

ERC Certificate Number and Number Reduction Source Location Distance from Project	Pollutant	Total Q1 (lb)	Total Q2 (lb)	Total Q3 (lb)	Total Q4 (lb)	Annual (lbs)
< 20 miles						
Davis Ranches // Colusa, CA // Colusa County [d]						
(Cert. 06-7-2001-1)						
> 20 miles < 50 miles	PM10	15,791.4	12,735.0	5,094.0	17,319.6	50,940.0
	SO_2	2,752.2	2,223.6	889.4	3,024.1	8,889.3
Gunnersfield Ent., Inc. // Maxwell, CA // Colusa County [d]	NOx	5,616.0	4,529.0	1,811.6	6,159.4	18,116.0
(Cert. 06-01-02-02)						
< 20 miles						
	SO_2	1,188.0	958.1	383.2	1,303.0	3,832.3
Jon B. Chaney // Maxwell, CA // Colusa County [d]	NOx	2,104.1	1,696.9	678.5	2,307.8	6,787.3
(Cert. 06-01-02-01)						
< 20 miles						
	SO_2	445.1	359.0	143.6	488.2	1,435.9
Jack DeWit // Maxwell, CA // Colusa County [d]						
(Cert. 06-07-02-05)	VOC	1,033.1	833.2	333.3	1,133.1	3,332.7
< 20 miles						
	SO_2	241.8	195.0	78.0	265.2	780.0
Jerry Maltby et. al. // Williams, CA // Colusa County [d]						
(Cert. 06-06-11-01)	VOC	4,087.7	3,296.5	1,318.6	4,483.3	13,186.1
< 20 miles						
	SO_2	956.7	771.5	308.6	1,049.3	3,086.1
Jim Lagrande // Colusa, CA // Colusa County [e]	NOx	1,315.0	1,118.2	567.0	1,448.9	4,449.1
(Cert. 06-01-03-01)	VOC	1,192.2	1,110.7	634.7	1,312.5	4,250.1
< 20 miles						
Charles Tuttle, Gordon Ranch // Maxwell, CA // Colusa County [e]						
(Cert. 06-07-02-01)						
< 20 miles						
	SO_2	336.8	306.0	166.3	370.3	1,179.5
Charles Tuttle, Tenant Ranch // Maxwell, CA // Colusa County [f]	NOx	1.6	118.8	352.8	3.2	476.4
(Cert. 06-07-02-03)	VOC	5.1	210.0	857.5	5.7	1,078.3
< 20 miles						
	SO_2	0.2	24.9	62.2	0.7	88.0
Charles Tuttle, Helphenstine Ranch // Maxwell, CA // Colusa County [g]	NOx	0.0	85.8	143.8	2.3	232.0
(Cert. 06-07-02-02)	VOC	0.0	151.7	254.2	4.1	410.0
< 20 miles						
Charles Tuttle, Williams Ranch // Maxwell, CA // Colusa County [g]	NOx	0.0	60.9	102.1	1.6	164.7
(Cert. 06-07-02-04)	VOC	0.0	107.7	180.4	2.9	291.0
< 20 miles						
	SO_2	0.0	12.8	21.4	0.3	34.5
William Payne // Woodland, CA //	NOx	1,701.0	1,874.0	3,033.0	1,901.0	8,509.0

ERC Certificate Number and Number Reduction Source Location Distance from Project	Pollutant	Total Q1 (lb)	Total Q2 (lb)	Total Q3 (lb)	Total Q4 (lb)	Annual (lbs)
Sutter County [d] (Cert. ERC 2001-26) > 20 miles < 50 miles	VOC	1,538.0	2,362.0	8,034.0	1,718.0	13,652.0
	SO_2	360.0	395.0	489.0	402.0	1,646.0
Emerald Farms Colusa County [g] (Cert. 06-01-08-01) < 20 miles	NOx	3,274.7	2,981.1	1,626.4	3,600.9	11,483.1
	VOC	2,959.9	2,988.2	1,962.3	3,262.5	11,172.9
	PM10	3,967.5	4,038.2	2,685.0	4,374.1	15,064.8
	SO_2	692.7	629.9	342.8	761.7	2,427.1
Emerald Farms Colusa County [d] (Cert. 06-01-08-02) < 20 miles	NOx	465.9	375.7	150.3	510.9	1,502.8
	VOC	421.1	339.6	195.8	461.8	1,418.3
	PM10	564.4	455.2	182.1	619.0	1,820.7
	SO_2	98.5	79.5	31.8	108.1	317.9
Emerald Farms Colusa County [d] (Cert. 06-01-08-03) < 20 miles	NOx	4,136.6	3,338.0	1,334.4	4,536.9	13,345.9
	VOC	3,738.9	3,015.2	1,208.1	4,100.7	12,062.9
	PM10	5,011.7	4,041.7	1,616.7	5,498.7	16,168.8
	SO_2	875.1	705.7	282.3	959.7	2,822.8
Emerald Farms Colusa County [g] (Cert. 06-01-08-04) < 20 miles	NOx	576.1	542.2	315.9	634.0	2,068.2
	VOC	520.7	557.1	397.9	574.8	2,050.5
	PM10	698.0	754.3	545.8	770.7	2,768.8
	SO_2	121.9	114.5	66.5	134.1	437.0

Source: E&LW, 2006d and PG&E 2009.

[a] The quantities listed are the certificate totals for each pollutant owned or proposed to be used by the project owner. The total quantity required for offsetting may be less than the total for each pollutant shown above, and those remaining credits can be retained by the project owner at their discretion after surrendering the amounts required as shown in Conditions of Certification AQ-27 and AQ-SC7.

[b] These emission reductions were the result of the permanent shutdown of the Louisiana Pacific fiberboard production plant and associated emission sources (hardboard production line, two boilers, etc.) in Oroville.

[c] These emission reductions were the result of the permanent shutdown of two wood-fired boilers at Sierra Mountain Mills.

[d] Agricultural burn cessation crop is rice for these sources.

[e] Agricultural burn cessation crop is rice and wheat for these sources.

[f] Agricultural burn cessation crop is safflower and wheat for this source.

[g] Agricultural burn cessation crop is wheat for these sources.