

## CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET  
SACRAMENTO, CA 95814-5512

<b>DOCKET</b>		
99-AFC-7C		
<b>DATE</b>	NOV	4 2004
<b>RECD.</b>	NOV	5 2004

**DATE:** November 4, 2004

**TO:** Interested Parties  
*Nancy Tronaas*

**FROM:** Nancy Tronaas, Compliance Project Manager

**SUBJECT:** **Pastoria Energy Facility (99-AFC-7C)**  
**Staff Analysis of Proposed Modifications to**  
**Emission Reduction Credit Offsets**

On March 22, 2004, the California Energy Commission received a petition from the Calpine Corporation to amend the Energy Commission Decision for the Pastoria Energy Facility. The Pastoria Energy Facility project is a 750 MW combined cycle power plant located 6.5 miles east of the community of Grapevine in Kern County. The project was certified by the Energy Commission in December 2000, and is currently under construction.

The proposed modifications will (1) revise the emission reduction credit (ERC) offset package for specific criteria pollutants, (2) modify the quantity of ERCs to be surrendered to the air district for PM10 and SOx, and (3) make conforming changes to the air quality Conditions of Certification.\*

Energy Commission staff reviewed the petition and assessed the impacts of this proposal on environmental quality, public health and safety, and proposes new and revisions to existing conditions of certification for air quality (AQ-6, -20, -24, -26, -30, -58, -67, -89, and -90). It is staff's opinion that, with the implementation of new and revised conditions, the project will remain in compliance with applicable laws, ordinances, regulations, and standards and that the proposed modifications will not result in a significant adverse direct or cumulative impact to the environment (Title 20, California Code of Regulations, Section 1769).

The amendment petition has been posted on the Energy Commission's webpage at [www.energy.ca.gov/sitingcases](http://www.energy.ca.gov/sitingcases). Staff's analysis is attached for your information and review. Staff's analysis and the order (if the amendment is approved) will also be posted on the webpage. Energy Commission staff intends to recommend approval of the petition at the December 1, 2004 Business Meeting of the Energy Commission.

If you have comments on this proposed modification, please submit them to me at the address below prior to November 30, 2004:

California Energy Commission  
Attn: Nancy Tronaas  
1516 9<sup>th</sup> Street, MS 2000  
Sacramento, CA 95814

Interested Parties  
November 4, 2004  
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Comments may be submitted by fax to (916) 654-3882, or by e-mail to [ntronaas@energy.state.ca.us](mailto:ntronaas@energy.state.ca.us). If you have any questions, please contact Nancy Tronaas, Compliance Project Manager, at (916) 654-3864.

#### Attachment

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\* The March 22, 2004 petition originally included a request for a temporary increase in commissioning emissions that was later removed from the petition at Calpine's request. On September 24, 2004 Calpine filed a subsequent petition with the Energy Commission to modify commissioning emissions, and that petition is being reviewed concurrently by Energy Commission staff.

**PASTORIA ENERGY FACILITY (99-AFC-7C)**  
**Petition to Amend Emission Reduction Credit Offset Package**  
**Air Quality Staff Analysis**  
**Prepared by: William Walters, P.E.**  
**November 2, 2004**

**Amendment Request**

On March 19, 2004, Pastoria Energy Facility, LLC (PEF or project owner) proposed an amendment to the Pastoria Energy Facility (PEF) Project, which was requested in a letter from Mr. Terrence O'Brien, Deputy Director, Energy Commission Systems Assessment and Facilities Siting Division, on August 11, 2003 (PEF 2004a). This amendment request seeks to amend PEF's Emission Reduction Credit (ERC) offset package, including updating quarterly emission values for SOx and PM10 to satisfy the San Joaquin Valley Air Pollution Control District (District) requirements. Additional administrative corrections to the Conditions of Certification are requested as a result of minor errors introduced into the conditions in the Commission's July 2002 amendment. That amendment inadvertently reversed changes that had previously been approved in January 2002. This amendment also seeks to comply with the San Joaquin Valley Energy Center (SJVEC) Condition of Certification AQ-C7 that requires the project owner to amend either the PEF or SJVEC ERC package in order to remedy an ERC "double counting" issue. Finally, this amendment also seeks to clarify the certification requirements of the NOx continuous monitors. On October 21, 2004 the District issued a draft Final Determination of Compliance (FDOC) for PEF (District 2004),

The March 19<sup>th</sup> amendment request was found to be incomplete. As such, the District submitted a Notice of Incomplete Application for the proposed modifications to the PEF permits to the project owner on April 12, 2004. On April 29, 2004, the project owner responded to the District to address the issues raised in the April 12<sup>th</sup> letter.

The project owner is requesting revisions to the following Conditions of Certification: **AQ-6, AQ-26, AQ-28, and AQ-30**. Two new conditions, **AQ-89 and AQ-90**, were also added by the District in their FDOC, and staff has modified conditions **AQ-20, AQ-24, AQ-58, and AQ-67** so that they correct inconsistencies in the emission values provided in the CEC conditions versus the respective District conditions. A separate amendment request for commissioning activities was filed on September 14, 2004. Therefore, these additional conditions are not discussed within this amendment request.

**Background**

In November 1999, Pastoria Energy Facility, LLC (owner), a subsidiary of Enron North America Corporation, proposed to construct and operate a 750 megawatt (MW) combined cycle project in southern Kern County, approximately 30 miles south of Bakersfield, California and approximately 6.5 miles east of Interstate 5 near the base of the Tehachapi Mountains. The PEF was certified in December 2000 (CEC 2000a), and in June 2001 the Energy Commission approved a transfer of ownership of PEF from the Enron Corporation to the Calpine Corporation. Power Block I consists of two natural gas fired 168 MW General Electric 7FA type combustion turbine generators (CTGs), two heat recovery steam generators (HRSGs), and one 185 MW steam turbine

generator (STG). Power Block II consists of one 168 MW General Electric 7FA CTG unit exhausting into a HRSG which drives a separate 90 MW STG. The PEF will use 24 cooling tower cells, arranged back-to-back in two tower banks. One bank will contain 16 cells and the other bank will contain 8 cells. There have been two previous project amendments that have requested the modification of operational air quality requirements and one previously requested administrative modification. The first of these requested project amendments, approved in January 2002, concerned the reduction of the estimated turbine PM<sub>10</sub> and NO<sub>x</sub> emissions and a resulting revision in the proposed air emission offset package. The second of these requested project amendments, approved in July 2002, concerned a revision to the project's cooling tower emissions and resultant change to the required PM<sub>10</sub> emission offset package. The administrative amendment request, approved in October 2001, concerned the required timing for the surrender of emission credits. Additionally, another project amendment concerning initial commissioning emissions is concurrently being processed by staff.

The current schedule for PEF is for Power Block II to complete construction between the 4<sup>th</sup> quarter of 2004 and the 1<sup>st</sup> quarter of 2005. Construction of Power Block I is scheduled for completion between the 2<sup>nd</sup> and 3<sup>rd</sup> quarters of 2005. PEF is expected to be online in February 2005.

### **Laws, Ordinances, Regulations, and Standards**

LORS identified in the Energy Commission decision for the Pastoria project also apply to this amendment request. The project would continue to remain in compliance with all applicable LORS with the requested changes.

### **Analysis**

#### **Emissions Offsets Analysis**

The changes that affect the PEF offset package include:

- Revisions to the specific ERC certificates that will be used to offset this project.
- A revised calculation procedure to determine the appropriate SO<sub>2</sub> for PM<sub>10</sub> interpollutant offset ratio. This revised procedure, which has been previously approved by the District and the Commission, will lower the SO<sub>2</sub> for PM<sub>10</sub> offset ratio requirement for the project.
- Revisions to the specific ERC certificates that will be used to offset the Pastoria and San Joaquin Valley Energy Center projects in order to show that no duplicate ERCs are being proposed for these two projects.

The specific requested changes to the Pastoria project emissions offset package are as follows:

#### **NO<sub>x</sub> Emission Offsets**

**Table 1** provides a summary of the total project NO<sub>x</sub> emissions and identifies the project offset sources. ERC C-375-2, C-376-2, and N-195-2 were generated from the shutdown of an emissions source or unit. ERC S-1554-2 was generated from the retrofit of 31 internal combustion (IC) engines with pre-combustion chambers.

**Table 1**  
**Revised NO<sub>x</sub> ERCs Proposed for the Pastoria Energy Facility**

Offset Source Location	Date of Reduction	Credit Number	Total Q1 (lb)	Total Q2 (lb)	Total Q3 (lb)	Total Q4 (lb)	Annual (lb)
525 W. Third Street, Hanford	11/30/87	C-375-2	12,500	12,500	12,500	12,500	50,000
525 W. Third Street, Hanford	11/30/87	C-376-2	54,301	54,301	54,301	54,301	217,204
9571 S. Roberts Rd. Stockton	1/19/88	N-195-2	41,829	41,829	41,829	41,829	167,316
Elk Hills Gas Plant, Kern County	12/5/90	S-1554-2	11,385	12,719	14,051	14,053	52,208
<b>Total ERCs Provided<sup>a</sup></b>	---	---	<b>120,015</b>	<b>121,349</b>	<b>122,681</b>	<b>122,683</b>	<b>486,728</b>
<b>Emissions<sup>b</sup></b>	---	---	<b>85,296</b>	<b>86,243</b>	<b>87,191</b>	<b>87,191</b>	<b>345,921</b>
<b>Offset Ratio</b>	---	---	<b>1.41:1</b>	<b>1.41:1</b>	<b>1.41:1</b>	<b>1.41:1</b>	<b>1.41:1</b>

From PEF 2004b, Sierra 2004.

Note(s):

- The ERCs proposed by the Project owner to either meet District requirement or CEC requirements, whichever is greater.
- CEC calculated total project emissions estimate which includes the District exempt emission units and does not subtract the Districts offset threshold (20,000 lbs/year).

The quantity of offsets proposed by the project owner to offset the NO<sub>x</sub> emissions are adequate to meet District offset requirements (District 2004) and will provide a greater than a 1:1 overall emission offset ratio. Therefore, staff recommends the revisions to the specific ERC offset package as requested by the project owner.

### VOC Emission Offsets

**Table 2** provides a summary of the total project VOC emissions and identifies the project offset source. ERC S-1549-1 was generated by the addition of a VOC collection/condensate system for fireflood operation.

The quantity of offsets proposed by the project owner to offset the VOC emissions are adequate to meet District offset requirements (District 2004) and will provide a greater than a 1:1 overall emission offset ratio. Therefore, staff recommends the revisions to the specific ERC offset package as requested by the project owner.

**Table 2**  
**Revised VOC ERCs Proposed for the Pastoria Energy Facility**

Offset Source Location	Date of Reduction	Credit Number	Total Q1 (lb)	Total Q2 (lb)	Total Q3 (lb)	Total Q4 (lb)	Annual (lb)
NW ¼ Section 35, Township 12N, Range 24W Moco T – South <sup>a</sup>	11/26/91	S-1549-1	76,791	77,643	78,496	78,498	311,428
<b>Quarterly Emissions<sup>b</sup></b>	---	---	<b>56,139</b>	<b>56,762</b>	<b>57,386</b>	<b>57,386</b>	<b>227,673</b>
<b>Offset Ratio</b>	---	---	<b>1.37:1</b>	<b>1.37:1</b>	<b>1.37:1</b>	<b>1.37:1</b>	<b>1.37:1</b>

From PEF 2004b, Sierra 2004.

Note(s):

- The ERCs proposed by the project owner to either meet District requirement or CEC requirements, whichever is greater.
- CEC calculated total project emissions estimate which includes the District exempt emission units and does not subtract the Districts offset threshold (20,000 lbs/year).

## PM10 Emission Offsets

**Table 3** provides a summary of the total project PM10 emissions and identifies the project offset source and the remaining quantity of SOx ERCs available to offset PM10 after accounting for other SOx offsets. ERC N-270-5 was generated from the modification to an acid plant.

**AIR QUALITY Table 3**  
**Revised PM10 ERCs Proposed for the Pastoria Energy Facility**

Offset Source Location	Date of Reduction	Credit Number	Total Q1 (lb)	Total Q2 (lb)	Total Q3 (lb)	Total Q4 (lb)	Annual (lb)
16777 S. Howland Rd., Lathrop (SOx) <sup>a</sup>	1/1/90	N-270-5	122,314	123,673	125,032	125,032	496,051
SOx ERCs Used to Offset SOx	---	---	31,358	31,706	32,054	32,054	127,172
SOx ERCs Used to Offset PM10	---	---	90,956	91,967	92,978	92,978	368,879
Quarterly Emissions <sup>b</sup>	---	---	58,311	58,959	59,607	59,607	236,484
Offset Ratio	---	---	1.56	1.56	1.56	1.56	1.56

From PEF 2004b, 2004c, and Sierra 2004.

Note(s):

- a. ERC N-270-5 is owned by Calpine Corporation, which has allocated credits to PEF (496,051lbs.) and SJVEC (43,658 lbs.). There are an additional 797,287 lbs. remaining on ERC N-270-5.
- b. CEC calculated total project emissions estimate which includes the District exempt emission units.

The District has approved the SO<sub>2</sub> for PM10 interpollutant trading ratio (1.06:1) proposed by the project owner (District 2004). The SO<sub>2</sub> for PM10 interpollutant trading ratio calculation methodology proposed by Calpine was previously approved by the District for the MID Ripon project and the SJVEC project. The actual interpollutant trading ratio is calculated using ambient air quality data collected near the project site and therefore will change from project site to project site. For example, the SO<sub>2</sub> for PM10 interpollutant trading ratio approved by the District for the MID Ripon project was 1.2:1, and that approved for the SJVEC project was 1.87:1.

The quantity of PM10 and SO<sub>2</sub> ERCs offsets proposed by the project owner to offset the project's PM10 emissions are adequate to meet District offset requirements (District 2004) and will provide a greater than a 1:1 overall emission offset ratio. Therefore, staff recommends the revisions to the specific ERC offset package as requested by the project owner.

## SO<sub>2</sub> Emission Offsets

**Table 4** provides a summary of the total project SO<sub>2</sub> emissions and identifies the project offset sources. ERC N-270-5 was generated from the modification to an acid plant.

The amount of SO<sub>2</sub> offsets proposed by the project owner to offset the SO<sub>2</sub> emissions will provide a 1.5:1 overall emission offset ratio. Therefore, staff recommends the revisions to the specific ERC offset package as requested by the project owner.

**Table 4**  
**SO<sub>2</sub> ERCs Proposed for the Pastoria Energy Facility**

Offset Source Location	Date of Reduction	Credit Number	Total Q1 (lb)	Total Q2 (lb)	Total Q3 (lb)	Total Q4 (lb)	Annual (lb)
16777 S. Howland Rd., Lathrop <sup>a</sup>	1/1/90	N-270-5	122,314	123,673	125,032	125,032	496,051
SOx ERCs Used to Offset PM10	---	---	90,956	91,967	92,978	92,978	368,879
SOx ERCs to Offset SOx	---	---	31,358	31,706	32,054	32,054	127,172
Quarterly Emissions <sup>b</sup>	---	---	<b>20,905</b>	<b>21,137</b>	<b>21,369</b>	<b>21,369</b>	<b>84,780</b>
Offset Ratio	---	---	1.5:1	1.5:1	1.5:1	1.5:1	1.5:1

From PEF 2004b, 2004c, and Sierra 2004.

Note(s):

- a. ERC N-270-5 is owned by Calpine Corporation, which has allocated credits to PEF (496,051lbs.) and SJVEC (43,658 lbs.). There are an additional 797,287 lbs. remaining on ERC N-270-5.
- b. CEC calculated total project emissions estimate which includes the District exempt emission units.

### **Continuous Monitoring - Conditions of Certification AQ-6, -28, -30, and -89**

The project owner has requested clarification of the requirements of certification of any upstream NOx monitor that may be used to determine ammonia emissions and determine compliance with the ammonia slip limit. Specifically, the project owner asked that the approved ammonia continuous monitoring/calculation system not be used for compliance demonstration of the ammonia slip without corroborative source testing data. The District's FDOC analysis did provide revised conditions based on previous cases (e.g. Elk Hills) that clarified the continuous monitoring requirements (**AQ-6**, **AQ-30**, and new condition **AQ-89**); however, the District will require the approved continuous monitoring/calculation scheme employed to determine ammonia slip to be used for compliance demonstration (i.e. the District denied the request to modify **AQ-28**).

### **Conditions of Certification AQ-20, -24, -58, and -67**

Staff is modifying conditions **AQ-20**, **AQ-24**, **AQ-58** and **AQ-67** to be consistent with the emission values specified in the District Conditions. In processing previous project amendments, revisions to the emission values provided in the District conditions were not fully updated in the Energy Commission conditions. Additionally, the verifications of conditions **AQ-24**, **AQ-58**, and **AQ-67** have been standardized. Most of the emission modifications are minor and are likely the result of rounding error. The annual PM10 emission value listed in **AQ-20**, as revised in 2002, is the only one of these emission values that is significantly different than that given the District's permit conditions. Since the revised value is lower than the current value, there would be no environmental impact due to the revision; the other conforming condition revisions would also not cause any environmental impacts.

### **Conclusions and Recommendations**

Staff has reviewed the project owner's amendment request and has the following conclusions and recommendations:

- Conditions of Certification **AQ-6** and **AQ-30** are recommended to be revised, as provided in the District's FDOC condition numbers 6 and 33, respectively, to clarify continuous monitoring requirements. New Condition of Certification **AQ-89** is recommended to be added, as provided in the District's new FDOC condition number 7, to specify requirements of the NO<sub>x</sub> monitor that may be installed upstream of the SCR unit for the purpose of determining ammonia slip emissions.
- Condition of Certification **AQ-26**, which provides the SO<sub>2</sub> for PM<sub>10</sub> interpollutant offset ratio requirements, is recommended to be revised as provided in the District's revised FDOC condition number 29; new Condition of Certification **AQ-90**, which specifies the ERC certificates to be used for this project, is recommended to be added as provided in the District's FDOC condition number 26.
- Conditions of Certification **AQ-20**, **AQ-24**, **AQ-58**, and **AQ-67** are recommended to be revised to conform to the emission values provided in the District's FDOC conditions number 21 and 25 (which repeats as **AQ-24**, **AQ-58** and **AQ-67**), respectively.

The recommended revisions to the Conditions of Certification do not cause any significant air quality impacts.

### **Recommended New and Revisions to Existing Conditions of Certification**

Staff recommends the following revisions to the Conditions of Certification:

Deleted text is shown in ~~strikethrough~~, and new text is underlined.

- AQ-6** ~~GTG~~ The Heat Recovery Steam Generator (HRSG) exhaust duct downstream of the SCR unit shall be equipped with continuously recording emissions monitor (CEM) for NO<sub>x</sub>, CO, and O<sub>2</sub>. ~~If SCR NO<sub>x</sub> control system is used, GTG shall be equipped with an additional CEM for NO<sub>x</sub> ahead of the SCR unit, or, alternatively, a continuously recording ammonia monitor.~~ All CEMS shall be dedicated to this unit and shall meet the requirements of 40 CFR Part 60 Appendices B & F (for CO), and 40 CFR Part 75 (for NO<sub>x</sub> and O<sub>2</sub>), and shall be capable of monitoring emissions during ~~startups and shutdowns as well as normal operating conditions,~~ and during startups and shutdowns, provided the CEM(s) pass the relative accuracy requirements for startups and shutdowns specified herein. If relative accuracy of CEM(s) cannot be certified during startup conditions, CEM results during startup and shutdown events shall be replaced with startup emission rates obtained during source testing to determine compliance with emission limits in conditions **AQ-15**, **AQ-19** & **AQ-20**. [District Rule 2201]

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



**AQ-20** Combined annual emissions from CTGs S-3636-1, 2 and 3, calculated on a twelve consecutive month rolling basis, shall not exceed any of the following; PM10 – ~~224,343~~<sup>233,900</sup> lb/year, SOx (as SO2) – 84,780 lb/year, NOx (as NO2) – ~~344,484~~<sup>344,485</sup> lb/year, VOC – 227,619 lb/year and CO – 1,220,166 lb/year. [District Rule 2201]

**Verification:** The project owner shall provide records of compliance as part of the quarterly reports of **Condition AQ-39**.

**AQ-24** Prior to operation the project owner shall surrender offsets for S-3636-1-0, 2-0, 3-0, 4-0, and 5-0, for all calendar quarters in the following amounts, at the offset ratio specified in Rule 2201 (6/15/95 version) Table 1, PM10 – Q1: 58,305 lb, Q2: 58,953 lb, Q3: 59,601 lb, and Q4: ~~59,602~~<sup>59,604</sup> lb; SOx (as SO2) – Q1: 20,905 lb, Q2: 21,137 lb, Q3: 21,369 lb, and Q4: 21,369 lb; NOx (as NO2) – Q1: 80,010 lb, Q2: 80,899 lb, Q3: ~~81,788~~<sup>81,787</sup> lb, and Q4: 81,788 lb; and VOC – Q1: ~~51,193~~<sup>51,194</sup> lb, Q2: 51,762 lb, Q3: 52,331 lb, and Q4: ~~52,331~~<sup>52,332</sup> lb. [District Rule 2201]

**Verification:** ~~The project owner shall submit copies of ERC surrendered to the SJVUAPCD in the totals shown to the CPM prior to no later than 30 days prior to the commencement of operation.~~ No later than 30 days prior to the commencement of operation, the project owner shall submit to the CPM copies of ERCs surrendered to the SJVUAPCD in the totals shown.

**AQ-26** SOx ERCs may be used to offset PM10 emission increases at a ratio of ~~2-9~~<sup>1.06</sup> lb SOx : 1 lb PM10 for reductions occurring within 15 miles of this facility, and at ~~3-4~~<sup>1.56</sup> lb SOx : 1 lb PM10 for reductions occurring greater than 15 miles from this facility. [District Rule 2201]

**Verification:** ~~The project owner shall submit copies of ERC surrendered to the CPM no later than 30 days prior to the commencement of operation.~~ No later than 30 days prior to the commencement of operation, the project owner shall submit to the CPM copies of ERCs surrendered.

**AQ-30** Compliance with the startup NOx, CO, and VOC mass emission limits shall be demonstrated from on of the CTGs (S-3636-1, 2, or 3) upon initial operation and at least every seven years thereafter by District witnessed in situ sampling of exhaust gases by a qualified independent source test firm. CEM relative accuracy shall be determined during startup source testing in accordance with methodology approved by the District. If CEM data is not certifiable to determine compliance with NOx and CO startup emission limits, then source testing to measure startup NOx and CO mass emission rates shall be conducted at least once every 12 months. [District Rule 1081]

**Verification:** The project owner shall provide records of compliance as part of **Condition AQ-33.**

**AQ-58** Prior to operation the project owner shall surrender offsets for S-3636-1-0, 2-0, 3-0, 4-0, and 5-0, for all calendar quarters in the following amounts, at the offset ratio specified in Rule 2201 (6/15/95 version) Table 1, PM10 – Q1: 58,305 lb, Q2: 58,953 lb, Q3: 59,601 lb, and Q4: ~~59,602~~59,601 lb; SOx (as SO2) – Q1: 20,905 lb, Q2: 21,137 lb, Q3: 21,369 lb, and Q4: 21,369 lb; NOx (as NO2) – Q1: 80,010 lb, Q2: 80,899 lb, Q3: ~~81,788~~ 81,787 lb, and Q4: 81,788 lb; and VOC – Q1: ~~51,193~~ 51,194 lb, Q2: 51,762 lb, Q3: 52,331 lb, and Q4: ~~52,331~~ 52,332 lb. [District Rule 2201]

**Verification:** ~~The owner/operator shall submit copies of ERC surrendered to the SJVUAPCD in the totals shown to the CPM prior to or upon startup of the CTGs or cooling tower. No later than 30 days prior to the commencement of operation, the owner/operator shall submit to the CPM copies of ERCs surrendered to the SJVUAPCD in the totals shown.~~

**AQ-67** Prior to operation the project owner shall surrender offsets for S-3636-1-0, 2-0, 3-0, 4-0, and 5-0, for all calendar quarters in the following amounts, at the offset ratio specified in Rule 2201 (6/15/95 version) Table 1, PM10 – Q1: 58,305 lb, Q2: 58,953 lb, Q3: 59,601 lb, and Q4: ~~59,602~~59,601 lb; SOx (as SO2) – Q1: 20,905 lb, Q2: 21,137 lb, Q3: 21,369 lb, and Q4: 21,369 lb; NOx (as NO2) – Q1: 80,010 lb, Q2: 80,899 lb, Q3: ~~81,788~~ 81,787 lb, and Q4: 81,788 lb; and VOC – Q1: ~~51,193~~ 51,194 lb, Q2: 51,762 lb, Q3: 52,331 lb, and Q4: ~~52,331~~ 52,332 lb. [District Rule 2201]

**Verification:** The owner/operator shall submit copies of ERC surrendered to the SJVUAPCD in the totals shown to the CPM no later than 30 days prior to the commencement of operation. ~~prior to or upon startup of the CTGs or cooling tower.~~

**AQ-89** The HRSG exhaust duct shall be equipped with a continuously recording emission monitor upstream of the SCR unit for measuring the NOx concentration for the purposes of calculating ammonia slip. Permittee shall check, record, and quantify the calibration drift (CD) at two concentration values at least once daily (approximately 24 hours). The calibration shall be adjusted whenever the daily zero or high-level CD exceeds 5%. If either the zero or high-level CD exceeds 5% for five consecutive daily periods, the analyzer shall be deemed out-of-calibration. If either the zero or high-level CD exceeds 10% during any CD check, analyzer shall be deemed out-of-calibration. If the analyzer is out-of-calibration, the permittee shall take appropriate corrective action and then repeat the CD check. [District Rule 2201]

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

**AQ-90** ERC Certificate Numbers S-1554-2, C- 375-2, C-376-2, N-195-2 (or certificates split from these certificates) shall be used to supply the required NOx offsets, ERC Certificate Number S-1549-1 (or a certificate split from this certificate) shall be used to supply the required VOC offsets and ERC Certificate Number N-270-5 (or a certificate split from this certificate) shall be used to supply the required SOx and PM10 offsets, unless a revised offsetting proposal is received and approved by the District and the Energy Commission, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct [District Rule]

**Verification:** The project owner shall submit copies of the surrendered ERC certificates to the CPM no later than 30 days prior to the commencement of operation.

## References

- California Energy Commission (CEC). 2000a. Commission Decision on the Pastoria Energy Facility Project (Docket No. 99-AFC-7). December 21, 2000.
- Calpine Corporation Pastoria Energy Facility, LLC (PEF). 2004a. Petition to Amend Pastoria Energy Facility, LLC Emission Reduction Credits Offset Package and Amend Various Conditions of Certification. Pastoria Energy Facility (Docket No. 99-AFC-7C), March 19, 2004.
- Calpine Corporation Pastoria Energy Facility, LLC (PEF). 2004b. Letter from Ms. Barbara McBride, Director of Safety, Health & Environment, Calpine Western and California Power Regions to Mr. Thomas Goff, Permit Services Manager, Southern Region, San Joaquin Valley Air Pollution Control District in response to the District's April 12, 2004 Notice of Incomplete Application for modifications proposed to the permits for the Pastoria Energy Facility. April 29, 2004.
- Calpine Corporation Pastoria Energy Facility, LLC (PEF). 2004c. Letter from Ms. Barbara McBride, Director of Safety, Health & Environment, Calpine Western and California Power Regions to Ms. Nancy Tronaas, Compliance Project Manager, California Energy Commission in response to Staff's Draft Air Quality Analysis. November 2, 2004.
- San Joaquin Valley Air Pollution Control District (District) 2004. Draft Final Determination of Compliance (FDOC). Project Number: 1040705 – Pastoria Energy Facility (99-AFC-7). October 21, 2004.
- Sierra Research (Sierra) 2004. Amendment Request 2004-0437 Data Responses. Pastoria Energy Facility (Docket No. 99-AFC-7C), June 24, 2004.